A consideration of guitar fingering: implications for the preparation of a musical interpretation for performance and the process of writing music for the guitar

BRADLEY JAMES KUNDA

Bachelor of Music (First Class Honours)

The Australian National University (Canberra, Australia)

Diploma "di Alto Perfezionamento in Stile e Prassi Esecutive dell'800"

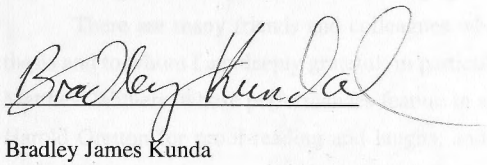
Accademia l'Ottocento (Lecce, Italy)

November 2012

A thesis submitted with performance recordings and an original musical arrangement for the degree of Doctor of Philosophy (Guitar Performance) of the Australian National University

Declaration

I declare that this is my own work and has not been submitted in any form for another degree or diploma at any university or other institution of tertiary education. Information derived from the published or unpublished work of others has been acknowledged in the text and a list of references is given.



17/05/2013.

Bradley James Kunda

Acknowledgements

In many ways, this research is the culmination of not just a four-year doctoral candidacy, but rather an all-encompassing and holistic musical education over eight years at the Australian National University School of Music. This thesis is in a broad sense the outcome of my interactions with many of the fine staff at that institution. No one deserves greater acknowledgement than the Chair of my Supervisory Panel, Associate Professor Timothy Kain. Since accepting me as a first-year undergraduate in 2005, Tim has demonstrated unwavering commitment and wisdom as both a guitarist and a pedagogue. I owe a great deal of who I am as a musician to this inspired mentor, cherished colleague and great friend.

My Associate Supervisor Dr Alistair Noble has provided enlightening direction to this study. I cannot thank him enough for his refreshingly clear, intelligent and holistic approach to research. I would also like to acknowledge the valuable input of Associate Professor Geoffrey Lancaster, who contributed enormously to my thinking as a researcher and as a musician, especially in the first two years of my doctoral candidacy. A very warm thanks also goes to my Advisers: Carlo Barone, who has played a critical role in developing my overall musicianship over the past ten years, and who has contributed greatly to this study's focus on issues of early-19th century guitar music; and Dr Robert Davidson, whose compositions and performing activities have inspired a significant aspect of this research project.

There are many friends and colleagues who helped with the production of this thesis and to whom I am deeply grateful: in particular my esteemed colleague and friend Matthew Withers, whose performances feature in several of the enclosed recordings; Dr Harold Gretton for proof-reading and laughs; and Niven Stines for his assistance and expertise during the recording process. A huge thanks also to the Friends of the Australian National University School of Music for helping fund my overseas fieldwork.

Finally, I could not have completed this research without the unwavering support of my family, whose encouragement and belief in me never falters. I would especially like to thank my dear wife Rebecca. Her love and support has played an unparalleled part in helping me through the last four years, and I am especially grateful for the balance she brings to my life and for her patience in sharing the first years of our marriage with this PhD!

Abstract

Most guitarists would agree that fingering lies at the heart of classical guitar performance. It is a process that eventually becomes intuitive in experienced performers, but one which requires years of playing, analysis and practice to develop. Despite its being a fundamental aspect of guitar playing, and an often critical inclusion in notated scores, guitar fingering nevertheless remains significantly under-represented in literature on guitar technique. Didactic methods for example, where notated fingering instructions are often abundant, mostly tend to reinforce the all-too-common conception that fingering denotes a rudimentary series of numbers and letters on a score that direct a player to employ a particular finger in the realisation of a given note. This observation is all the more startling when one considers how important fingering in guitar music can be; on an instrument where nearly any given pitch can be played in multiple positions and on different strings, fingering is surely an influential and significant factor of guitar technique that warrants research and discussion.

This thesis considers aspects of guitar fingering that bear a decisive influence on the end musical product (i.e. the music that is heard). This study suggests that guitar fingering is a procedural activity that connects the act of interpreting music for performance with the process of writing the music itself. In doing so, this thesis provides a contextual framework to allow the performer to add breadth to his or her interpretive outcomes. This study also provides practical advice to non-guitarist-composers who wish to explore the highly interactive nature of guitar fingering on substantive musical attributes such as articulation, accentuation, phrasing and sonority.

These considerations of guitar fingering are the products of practice-led research. Findings and conclusions arise from the author's experiential research as a performer and composer/arranger. Case studies of selected works from the guitar repertoire provide deep analysis of issues arising from guitar fingering as it relates to performance interpretation. A further case study of an original arrangement facilitates the exploration of fingering in the process of writing guitar music. This thesis is accompanied by a full-length CD recital that provides a broad contextual demonstration of the research findings. Additionally, short audio samples accompany the dissertation text to illuminate issues arising from guitar fingering that are illustrated through notated score excerpts. In addition to providing a substantial contribution to guitar literature on the subject of fingering, this study also makes a significant contribution to the relatively new area of practice-led research, where in the present thesis the empirical observation of creative practices generates new insights into the procedural activity of guitar fingering.

Preface

This thesis submission comprises multiple components in order to fulfil the Australian National University's outcomes for a Doctor of Philosophy in Guitar Performance. These components are the written dissertation and the musical performance, both of which are equally significant in the context of the overall thesis.

With respect to the performance component, the reader will find enclosed in the front and back covers of this dissertation three audio compact discs. Track lists for each of these CDs can be found in the Appendices. CD 1 contains short audio samples that accompany the written text. Nearly every audio sample refers to a corresponding excerpt from a notated score. There are over one hundred of these excerpts throughout this dissertation. It is recommended that this study be read with reference to this CD of audio samples.

CDs 2 and 3 contain complete performances of selected guitar works. Across both of these CDs, the reader will find all of the works selected for case study analysis, as well as additional pieces. CD 2 in particular may be considered as a complete guitar recital, which forms the main part of this thesis' performance component.

Table of Contents

List of Notated Examples and Audio Samples

Introduction

American guitarist Michael Chapdelaine had barely started playing the haunting theme of Isaac Albéniz's *Mallorca* when Andrés Segovia stopped him. 'One moment, one moment,' Segovia interrupts. Pointing to the score, the Spanish master exclaims 'You give me this...it's the transcription...my transcription. But you have modified all the fingering...why?' Almost at a loss for words, the highly proficient young Chapdelaine bumbles out 'Just decisions I made.' Not one to be argued with, Segovia asks him 'Do you think it's better, what you have found?' 'No', replies the despondent Chapdelaine. 'Then, why do you play it?' asks Segovia.[1]

It is 1986, the year before the maestro's death, and the talented American guitarist is in the privileged position to play in a masterclass for one of the classical guitar's most significant figures. One can only feel quite helpless for Michael as he feebly attempts to defend his fingering decisions with a half-hearted 'I think [they're] good,' to which the skeptical Segovia only shakes his head. The audience laughs, but the issue is clearly not funny. Segovia is unimpressed. The boy changed his fingering.

What is it about fingering that elicits such defensiveness from Segovia? In this now famous masterclass, the maestro laments that his young student has 'cut all the *portamento*,' a fingering technique used by late-Romantic guitarists including Francisco Tárrega (1852-1909) and Emilio Pujol (1886-1980) to enhance the lyrical expressivity of melodic lines.[2] While Segovia criticises these guitarists for their apparent overuse of the technique, he proclaims in its defence 'there are the *portamento* that is [*sic*] necessary...the guitar is not a dry instrument!' For Segovia, the issue in this class is not

[1] *Andrés Segovia: Masterclass with Michael Chapdelaine, 1986* <http://www.youtube.com/watch?v=wiAbqfaYGwk>, s.v. 'Segovia Chapdelaine Class', accessed 13 October 2012. Textual transcription of spoken audio is my own.

[2] Emilio Pujol, *Guitar School* ed. Matanya Ophee, trans. Brian Jeffery (repr., Columbus, OH, 1934; Madrid: Editions Orphée, 1983), § 147.

merely that of his student's ill-conceived fingering decision to remove the *portamento* in the maestro's arrangement. For Segovia, Chapdelaine's revised fingering was akin to an entirely different transcription of the work: 'if you have to play my transcription, *play* my transcription. Otherwise, go to another person that made [a] better transcription than I!' In other words, if you change the fingering, you change the music itself. The fingering is as much a part of the nature of the work as the very notes themselves!

Perhaps this is a rather extreme view of fingering. The lesson, however, was not lost on a humbled Chapdelaine, who later reflected:

> ...I thought that the fingerings I did were good, but to my ears - to the 10-year old artist - the fingerings *were* good. To Segovia, they weren't quite right. And it must be a little frustrating for him to come to us and be, night after night, confronted by this...it's not stubbornness, it's just we don't know what he knows, and we haven't grown up and lived in the same tradition as he, and maybe we haven't studied as much with the same commitment as he has. Or not *maybe* - we haven't! ... And so I don't blame him for finding it revolting that I wasn't playing his fingerings.[3]

Maybe it isn't just the fact that Segovia came from a different tradition that resulted in his being so defensive of his own fingerings. After all, one must remember that in the context of his upbringing, the classical guitar was still very much thought of as a folk instrument, hardly worthy of dedicated life-long study on lofty subjects like fingering.[4] Perhaps the lesson from this masterclass has less to do with Chapdelaine's evident idolisation of Segovia and his 'commitment' to study, and more to do with the inherent influence and significance of fingering in defining a piece of music?

---

[3] *Andrés Segovia: Masterclass with Michael Chapdelaine, 1986* <http://www.youtube.com/watch?v=wiAbqfaYGwk>, s.v. 'Segovia Chapdelaine Class', accessed 13 October 2012. Textual transcription of spoken audio is my own.

[4] See Christopher Nupen (dir.) *Segovia at Los Olivos* (Opus Arte/Allegro Films DVD, 1967).

Just how important is fingering in guitar music? Is it, as Segovia would have us think, a defining feature? Or, is it simply a rudimentary guide as to the placement of the fingers on the fretboard?[5] This study is directed to answering this and other related questions. Just how this study came about, however, had little to do with my pondering the question of fingering. This issue was arrived at in a rather different way. An understanding of this thesis's methodology and research questions will be greatly enhanced by backtracking for a brief moment to consider the background to the study.

Background to the Study

The genesis of this study emerged after Honours research in arranging opera arias for performance on solo guitar. Having already completed three intensive years of performance study, the challenges arising from actually having to write the notes (and not just learn them!) presented many interesting issues for me as a player. My practical expertise as a guitarist proved invaluable in the process of arranging the music, and so I started questioning what exactly were the attributes that could be used to distinguish a guitarist-composer from a non-guitarist-composer? Even at this early stage of thinking, fingering was starting to emerge as decisive in many critical aspects of the arrangements I was making. For example, it affected chord voicings, articulation, and the phrasing of melodic lines. I started to ponder questions such as how difficult would it be to write an arrangement for guitar without a working understanding of the influence of fingering on these musical factors? How does one's innate familiarity with an instrument affect

[5] This perspective may be evidenced in a range of sources from different periods and across different styles of guitar performance, where fingering is often relied on to instruct the reader as to the accurate and most efficient realisation of notated music. See for example, Mark Lindley, 'Fingering', in Stanley Sadie and John Tyrrell (eds.), *The New Grove Dictionary of Music and Musicians* (Second edn., 8; London: MacMillan, 2001), 841-51; and also various didactic methods including for example, Matteo Carcassi, *Méthode Complète pour la Guitare, Op. 59* (Paris: The author in cooperation with E. Troupenas, 1836); William G. Leavitt, *A Modern Method for Guitar*, 3 vols. (Boston: Berklee Press Publications, 1971); and Peter Altmeier-Mort, *The Art of Classical Guitar: A Complete Method*, 3 vols. (1; Melbourne: Allans Publishing, 1989), 23.

interpretive approaches? Conversely, what advantages might there be in *not* being a guitarist when writing guitar music?

Turning hopefully to the *Grove Dictionary of Music and Musicians*, I was somewhat startled to discover a significant lack of research on fingering for not only the guitar, but all kinds of plucked instruments. The *Grove*'s entry on 'fingering' makes clear its dismissal of guitar fingering in the briefest of sentences that conclude the first paragraph: 'music for plucked string instruments (lute, vihuela, guitar, harp etc.) employs fingering techniques that are either embodied in the notation or outside the scope of this article.'[6] Further reading would reveal that guitar fingering also lay outside the scope of the rest of the dictionary.

Not only was this entry dismissive of plucked instruments, but it also struck me as potentially misleading. My own practice as a guitarist-composer/arranger made it clear to me that fingering gave rise to issues that far exceeded any notion that it merely represented 'techniques...embodied in the notation' of a score. Further reading across a wide range of literature confirmed that research was lacking on the influence of guitar fingering on interpretation and the process of composing and arranging music for guitar. This literature included a large number of guitar methods or didactic treatises, most of which referenced fingering only in terms of guiding the student's finger to the location of a given note on a string.[7] Books on guitar history and performance proved even less insightful. Happily, a few journal articles in guitar-specific periodicals did contain some valuable hints towards the importance of guitar fingering in performance as well as in the process of writing guitar music.[8] However, these were all limited in their usefulness

[6] Mark Lindley, 'Fingering', in Stanley Sadie and John Tyrrell (eds.), *The New Grove Dictionary of Music and Musicians* (Second edn., 8; London: MacMillan, 2001), 841-51, 841.

[7] See above, n. 5.

[8] See for example, Julian Bream, 'How to Write for the Guitar', *The Score and I.M.A. Magazine*, 19 (1957), 19-26; Reginald Smith Brindle, 'The composer's problems', *Guitar Review*, 83/Fall (1990), 25-30; and Stephen Dodgson,

and scope by stringent word length restrictions, which invariably resulted in some rather profound issues being discussed only superficially.

At the same time, my reading into fingering for other instruments was revealing works that were more detailed and helpful than anything I had discovered in the guitar literature. For example, the aforementioned *Grove* entry on 'Fingering,'[9] while evading discussion of plucked instruments, nevertheless contains some references to historical keyboard treatises and manuscripts that for example, connect fingering with accentuation and rhythmic fluency.[10] A further illuminating resource included the writings of Frederic Chopin's pupils on their teacher's inventive and thoughtful fingerings for musical expression: 'The third finger is a *grand chanteur*.'[11] I. M. Yampolsky's volume *The Principles of Violin Fingering*, also proved inspirational in its dedication to the subject and the insightfulness of its observations. Particularly significant was Yampolsky's observation that '[b]y fingering we mean both the ways of placing and moving the fingers on a musical instrument, and the means of describing this *process* in the music itself.'[12] Of crucial relevance to this study is Yampolsky's observation that:

> [t]he choice of fingering has to be made in relation to the demands of phrasing, dynamics, and rhythm, and is a *creative task*, dependent on the musical instincts of the performer and the intellectual and emotional content of the work to be performed – in other words, its interpretation.[13]

'Writing for the guitar: Comments of a non-guitarist composer', *American String Teacher*, 33/Winter (1983), 13-16.

[9] See above, n. 6.

[10] See for example, Elias Ammerbach, *Orgel oder Instrument Tablatur* (Leipzig: 1571; rev. ed. Oxford, 1984), cited in Mark Lindley, 'Fingering', in Stanley Sadie and John Tyrrell (eds.), *The New Grove Dictionary of Music and Musicians* (Second edn., 8; London: MacMillan, 2001), 841-51.

[11] Letter from Mme de Courty, quoted in Louis Aguettant, *La Musique De Piano Des Origines À Ravel* (Paris: Albin Michel, 1954), 196, cited in Jean-Jacques Eigeldinger, *Chopin: Pianist and Teacher*, ed. Roy Howat (Cambridge: Cambridge University Press, 1986), 48.

[12] I. M. Yampolsky, *The Principles of Violin Fingering*, trans. Alan Lumsden (London: Oxford University Press, 1967), v. Emphasis added.

[13] Ibid.

The notion of fingering as a creative process driven by musical interpretation, and not merely a guide for designating a specific finger to a particular note, would prove fundamental to the emergence of the present study into guitar fingering. It would also inform the structure of this dissertation, which devotes an entire chapter to the subject of the interaction between guitar fingering and musical interpretation in performance.

This doctoral thesis on guitar fingering delves deeply into the subtle and significant influences of fingering in guitar music. Important questions arise from the interaction of guitar fingering with the processes of interpretation for performance and composition and arrangement. In addition to drawing together all relevant and available literature to answer these questions, this study relies heavily on practice-led research methodologies, where findings and assertions emerge as a direct result of my own practice as a performer, composer and arranger. Moreover, such findings and assertions feed directly back into my creative practice which, demonstrated through the performance component of this thesis, present opportunities for future commentary and research.

Research Questions and Hypothesis

For Segovia, fingering played a critical role in determining the very *nature* of a work. This observation has been confirmed for me in my own practice as a performer and composer/arranger. Indeed, it is an observation that may well be largely intuitive or obvious to most experienced players. So much of the available literature, however, fails to address the significant influences of fingering in guitar music. The discrepancy here gives rise to the following questions:

- Why is literature on guitar fingering lacking when it is arguably a fundamental aspect of guitar playing?

- To what extent does guitar fingering affect the music that we hear?
    - How might fingering be used as an interpretive tool in guitar performance?
    - How might fingering be influential in the process of writing guitar music?

This study addresses the above research questions in a practical way; by exploring aspects of guitar fingering as they relates to performers, composers and arrangers. This investigation aims to be useful for performers who wish to add breadth to their interpretive outlook, as well as non-guitarist-composers or arrangers who wish to understand the influence of guitar fingering on the way their music is heard in performance.

In answering the above questions, this thesis investigates the hypothesis that fingering is a *decisive* factor in the composition and performance of guitar music. At the performance-interpretive level, this hypothesis suggests that guitar fingering is *the primary* means by which certain crucial interpretive decisions are made clearly audible to listeners. At the level of composing or arranging music for guitar performance, this hypothesis implies that certain critical decisions that arise in the process of writing guitar music are intrinsically bound up in issues of fingering.

Methodology

The fundamental methodological basis for this study is practice-led (or practice-based) research.[14] This is a relatively new area of research practice, and so a definition of the term practice-led research remains a contentious and debatable subject. A very accessible introduction to practice-led research is offered by Jen Webb, who explains that:

[14] For the purposes of the present study, the terms practice-led and practice-based are used interchangeably.

> Practice-led research has practically no relationship with the positivist tradition or with classical empiricism. Although practice-led researchers frequently both produce and draw on concrete observations and measurements, the starting point is usually an idea; and the attitude is more often a concern with how humans construct the world through ideas, images, narratives and philosophies, than a generalisable 'truth', or understandings of cause and effect.[15]

Applied to the present study, what Webb describes as the 'starting point' for research denotes the issues that arise from my own experience as a guitarist and composer/arranger, and specifically those issues that relate to guitar fingering. As fingering may be described as an element of technical practice on the guitar, this research may fall into Webb's category of 'research *into* practice (generating knowledge about techniques, approaches and thinking to do with how practice is carried out in your discipline). [It] draws on methodologies of practice...as well as the conventional methods...'[16]

Conventional research methods used in the present study include the use of available literature including for example, journal articles and books, as well as instructional methods that elucidate issues arising from guitar fingering. The literature drawn upon in this study confirms that guitar fingering is a widely accepted technical device used by guitarists in performance. While various authors have attempted to reveal greater *musical* implications for guitar fingering that extend beyond its mere technical facility, the gap in the literature still points towards a general lack of discussion among guitarists concerning the musical implications of guitar fingering. This study explores fingering in a deeper way than is currently provided by the literature to assert the significant role fingering plays in musical interpretation and composition, which is an issue of great relevance to all guitarists and composers of

[15] Jenn Webb, 'Creative work as/and practice: The new paradigm', *Australian Postgraduate Writers Network*, (2008) <http://www.writingnetwork.edu.au/content/brief-notes-practice-led-research-0%3E>, accessed 13 July 2012.
[16] Ibid.

guitar music. In achieving this aim, which is inherently a practical one, it is not only fitting, but necessary that the methodological approach is also practical. Webb suggests that a particular methodological approach may be suggested by the nature of the researcher's question:

> [t]here is a linkage that is represented by the overlap between question and answer, and method provides a further connection, i.e. if one is interested in this particular question, then a particular route would be appropriate in order to find out something or develop the interpretation of this issue and precipitate a meaningful outcome.'[17]

Interpreted in the context of the present study: a practical question demands a practical answer.

One of the most significant problems with practice-based research methodologies, especially where they draw on practical methods and personal experience to generate research findings, is that of transferability. Michael Biggs and Daniela Buchler observe that '...because experience *per se* is something personal, its transferability is problematic and thus goes against the axiom of accumulation and the idea that there is something that can be shared in order to build a body of knowledge and interpretation.'[18] This study overcomes this issue by adopting two distinct approaches: 1) non-textual modes of communication; and 2) a unique terminological framework for discussion.

In this study, musical performance represents the non-textual mode of communication used to both generate and disseminate my original findings. The performance component of this study takes two forms: 1) brief audio samples that accompany the notated score excerpts in the written dissertation; and 2) a full-length CD recording that contains performances of the primary works in their entireties, plus

[17] Ibid. 10.

[18] Michael Biggs and Daniela Buchler, 'Eight criteria for practice-based research in the creative and cultural industries', *Art, Design & Communication in Higher Education*, 7/1 (2008), 5-18, 16.

additional works. As the research findings are founded fundamentally in the perceptive arena of audible sounds, the audio samples are provided as a necessary reference to assist in the reader's understanding of the issues discussed in the dissertation. In this study, many of the concepts concerning sound are too subtle to appreciate without the assistance of actually hearing the sounds themselves. The full-length CD recording places the detailed analysis of the audio samples in a broader context, allowing the reader to appreciate the implications of the research findings as they relate to guitar fingering in a more complete setting. In this setting, interpretive and compositional issues are better discerned through listening to complete works, rather than simply one or two measures of music at a time.

Language plays an important role in this study's methodology, particularly in overcoming the issue of transferring knowledge that is derived from non-textual and often highly individual creative practices. In order to make the findings of my personal experience transferable and relevant, a unique terminological approach has been developed in the present study to communicate, in as objective terms as possible, the sonic effects that result from guitar fingering. Indeed, a unique vocabulary was to a great extent necessary owing to the relatively unique manner of research into the subject of guitar fingering. Wallace Berry's terminological framework for his explication on musical textures[19] has provided some of the key vocabulary used in this study to objectively describe changes in the music that we hear as a result of guitar fingering. These terms will be elucidated below in the Definitions section of this Introduction.

Where this methodology is innovative is in its demonstrated capacity for research discoveries to be fed back into the creative practice (i.e. the act of guitar performance). For example, in the present study, findings relating to fingering that arise from my own

[19] Wallace Berry, *Structural Functions in Music* (Englewood Cliffs: Prentice-Hall, 1976), 184-300.

performance experience are fed back into my musical interpretations. These results are best gleaned from the CD recording, where full-length works reveal the influence of this study's findings on the very practical impetus that formed the basis for their discovery.

Definitions

This study adopts a terminological framework designed to empirically describe musical changes that result from the creative process of guitar fingering. Terms associated with established study into the theory of musical textures are adopted in describing the effect of guitar fingering on selected distinctive musical qualities. The technical basis for this approach is discussed in Chapter 1. This Definitions section elucidates many of the key terms that occur frequently in this thesis for the purpose of familiarising the reader with the vocabulary used within this unique discursive framework.

The terms and associated concepts used in this study that are specific to musical textures are drawn principally from research conducted and published separately by Anne Carothers Hall and Wallace Berry. In her doctoral dissertation, completed in 1971 under Wallace Berry's supervision, Hall proposed for the first time to develop a 'terminology and method for the analysis of musical texture.'[20] Berry then developed these concepts in his 1976 volume *Structural Functions in Music*.[21] The following list of terms specific to musical textures is provided to assist readers of the present study. While some of these definitions are drawn directly from Berry's work, most of these terms have been tailored to be directly relevant to the present study.

[20] Anne Carothers Hall, 'Texture in Violin Concertos of Stravinsky, Berg, Schoenberg, and Bartók', Ph.D. diss. (University of Michigan, 1971), ii.
[21] Wallace Berry, *Structural Functions in Music* (Englewood Cliffs: Prentice-Hall, 1976).

Chordal: a texture consisting essentially of chords, whether realised as block chords or arpeggiated figures.

Density-compression and density-number: the 'quantitative' aspects of musical texture. The latter denotes the number of concurrent sounds or sonic events, while the former denotes the closeness of these events within the vertical pitch spectrum or 'texture-space.' In other words, density refers to the number of simultaneously sounding notes.

Berry measures density-compression using the numerical ratio format *x*:*y*, where *y* is an indication of the total number of semitones in the texture-space. For example, a major triad comprising the notes **c**, **e** and **g** has a density-compression ratio of 3:8. This indicates 3 sounding components (notes) within a total texture-space that measures 8 notes (i.e. 8 semitones between and including the lowest and highest notes in the texture-space). This format will be adopted in the present study.

Doubling: the effect of duplicating a particular sound or resonance. Many of the notes playable on the guitar can be realised on more than one string. 'Doubling' may describe the practice of using fingering to produce for example, two pitches in unison across adjacent strings.

Homophonic: 'its traditional connotation is that of texture in which a primary voice is accompanied by a subordinate fabric sometimes interactive in tentative ways, the bass normally in a contradirectional or other contrapuntal relation to the primary voice (or voices).'[22]

Independence-interdependence: in multilinear textures (i.e. textures with more than one voice, or line), the degree to which the listener is made to perceive the

[22] Ibid. 192.

independence, or interdependence, of constituent voices is described as interlinear independence-interdependence. In the present study, guitar fingering will be seen as a crucial factor in asserting the independence of for example, a melodic line against an arpeggiated accompaniment. Alternatively, guitar fingering will also be seen to create sonic homogeneity where for example, an accumulation of overlapping sounds may render all parts of a multilinear texture equally important, resulting in a high degree of interdependence.

Monophonic: single-voiced.

Polyphonic: traditionally used interchangeably with 'contrapuntal'; a multilinear texture of considerable interlinear independence.

Sonority: the overall sonorous character determined by texture (including doublings) and colouration, which includes the timbre and combination of timbres produced by for example, the distinctive tonal qualities of each string on the guitar. In the present study, discussion of sonority considers the resulting resonance brought about by the accumulation of overlapping notes, and the subsequent implications for the realisation of the textural attributes of a given work.

Sonorous augmentation: an increase in concurrently or simultaneously resonating sounds.

Further terms relevant to the theory of musical textures will be defined as needed throughout this dissertation. In addition, there are many terms that are peculiar to guitar performance. The non-guitarist-reader in particular will find the following glossary of terms a useful aid when reading this dissertation:

Fingering: for the purposes of the present study, I define the term 'fingering' as the order and manner in which the fingers of both left and right hands are used to produce sounding pitches on the guitar. The order of fingers pertains to the use of specific fingers for designated notes. In conventional Western musical notation, as well as in this dissertation, these fingers are assigned the following letters and numbers: left hand - index finger, 1; middle finger, 2; ring finger, 3; little finger, 4; right hand - index finger, *i*; middle finger, *m*; ring finger, *a*; thumb, *p*. In addition, encircled numbers denote the use of particular strings, a crucial notational convention on an instrument where most pitches can be played on more than one string. This dissertation adopts the conventional contemporary approach to designating strings:

e' ①; **b** ②; **g** ③; **d** ④; **A** ⑤; **E** ⑥.

This thesis construes the term 'fingering' broadly to include also the *manner* in which the fingers are used. To this end, the use of different right-hand[23] plucking and strumming techniques is relevant to the present study. Plucking a string denotes the practice of using a right-hand finger to set a string in vibration by displacing and releasing the string using the underside of the fingernail or finger. Strumming denotes the practice of using a right-hand finger to set a string in vibration by striking the string from above with the upper side of the fingernail for downwards strums, and the underside of the nail for upwards strums. Further distinction is made between rest-stroke and free-stroke. Rest-stroke, or *apoyando*, refers to the condition where a right-hand finger plucks a given string and rests on the adjacent string, creating a full-bodied sound that is rich in overtones. Free-stroke, or *tirando*, may be described as

[23] Note that these definitions refer to the case of a right-handed guitarist. In the case of a left-handed guitarist, the plucking finger may refer to the left hand and the fretting finger the right hand. For the purposes of simplification in the present study, reference to left- and right-hand fingering will assume the case of a right-handed guitarist.

the opposite to rest-stroke, where the finger does *not* rest on the adjacent string. This stroke is the most frequently used stroke in classical guitar technique.[24]

Barré, or *capotasto*: the use of one left-hand finger (usually, but not always, the 1st finger) to simultaneously stop more than one string before a single fret.

Fret: vertical bars positioned along the fretboard at incrementally narrowing distances in direct proportion to the increase in pitch created by the shortening of string length. Left-hand fingers are used to *stop* a string immediately before a fret to shorten the string length and create a given pitch. Where no fingers are applied before the frets on a string, that string is said to be *open* (i.e. an *open* string is played).

Further definitions are provided below for conceptual terms that are used frequently throughout this thesis:

Performance interpretation: for the purposes of the present study, this term simply refers to the act of preparing a musical interpretation for performance. It should be distinguished from the act of interpreting or critically judging someone else's musical performance.

Substantive musical attributes: for the purposes of the present study, these denote qualitative and quantitative sonic events. In the Western art music tradition, these events are capable of being represented graphically in the form of a notated score.[25] Substantive musical attributes may be commonly understood to comprise the fundamental building blocks for all music. These attributes include for example, pitch content, rhythmic values and timbral quality, as well as the interaction of these

---

[24] Joseph Urshalmi, *A Conscious Approach to Guitar Technique* (Isle of Man: Chanterelle Verlag, Music Media Investments Ltd., 2006), 89.

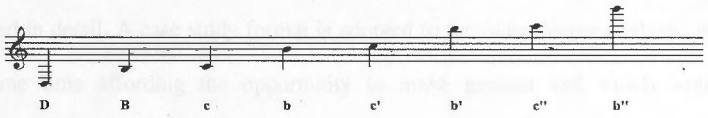
[25] For the purposes of this study, only traditional Western staff notation will be considered. Non-mensural or other non-conventional graphical systems of notation (including aleatoric systems) lie beyond the scope of this study. See Ian D. Bent et al. 'Notation', *Grove Music Online. Oxford Music Online.* <http://www.oxfordmusiconline.com/subscriber/article/grove/music/20114pg2>, accessed 13 October 2012.

fundamental elements in the form of phrasing and sonority. These are suggested here as constituting the *substance* of music, which for the purposes of conceptual distinction may exist irrespective of interpretive factors.

Non-English terms are in this thesis italicised excepting those that have become common in English language musical parlance. These terms include non-English words that are frequently used by guitarists such as for example, barré and vibrato.

To assist the reader, fingerings that are my own are indicated as such in the relevant captions above each notated musical example. Lastly, pitch nomenclature is derived from *Grove Music Online*[26] and is illustrated below.[27] Note names are indicated in **bold** throughout this dissertation.

Ex. 0.1 Pitch nomenclature as used in this thesis.



Structure of the Thesis

As stated above, the present study has its methodological foundations in practice-based research. To this end, the process of researching guitar fingering is based on the practical experience of the author as a performer and composer/arranger. Notated scores and audio samples illustrate and demonstrate the findings of the research, and a specially tailored terminological vocabulary is adopted to interpret and transfer the findings to the reader in an objective manner.

[26] L.S. Lloyd and Richard Rastall, 'Pitch Nomenclature', *Grove Music Online. Oxford Music Online.* <http://www.oxfordmusiconline.com/subscriber/article/grove/music/21857>, accessed 21 October 2012.

[27] To accommodate the octave transposition of the guitar, pitches are throughout this thesis notated an octave higher than they actually sound.

This thesis combines both performance and written forms of communication to disseminate research findings. This reflects the crucial role played by the practical experience of performing and arranging guitar music in the formation of this study's argument. The accompanying CDs 2 and 3 contain full-length performances of all the major works analysed in the central three chapters of the dissertation. Short audio samples are accessible on CD 1. These samples correspond with the notated excerpts used in the analyses of the dissertation.

The dissertation itself is organised into three chapters. The first might be described as a theoretical chapter. In it, selected aspects of guitar fingering are introduced, expounded and supported by an extensive review of the relevant literature and examples from the solo guitar repertoire. The second and third chapters are application chapters. Here, the aspects of guitar fingering considered in Chapter 1 are explored in detail. A case study format is adopted to facilitate deeper analysis, while at the same time affording the opportunity to make general and widely applicable assertions about guitar fingering. Chapter 2 contains three case studies that examine the role of guitar fingering in preparing a musical interpretation for performance, while Chapter 3 contains one case study that provides the reader with the opportunity to witness the powerful influence of fingering in the process of writing guitar music.

The distinct objectives and intended outcomes of both Chapters 2 and 3 were factored into deciding on the number of case studies and the repertoire to be analysed. The aim of Chapter 2 is to provide the reader with an overview of the interaction between selected aspects of guitar fingering and interpretive outcomes across a wide range of historical compositional styles. Three major periods in the six-single-string guitar's history are represented; the Romantic, *Bel Canto* style of the early-mid-19th century; the late-Romantic style of the early-mid-20th century, as exemplified by Andrés

Segovia; and the post-tonal tradition of the mid-late-20th century. Stylistic differentiation in interpretation is considered to be a relevant factor in this study based on the hypothesis that fingering is intrinsically linked with interpretive outcomes, which of necessity differ between different periods in music history.

The central aim of Chapter 3 is to provide the non-guitarist-composer with practical insights into the process of writing a piece of music for guitar. In this chapter, historical interpretive factors are not discussed as these issues enjoy significant analysis in Chapter 2. In Chapter 3, one case study is used to demonstrate the influential role of fingering in the process of arranging a work for two guitars. The discussion of fingering benefits here from the broadening of the investigation's focus to an ensemble context, where the interaction of two guitars gives rise to further issues of relevance for guitar fingering.

Significance of the Study

At the time of writing this thesis, it is indisputable that performance practices of classical guitar music have evolved considerably over the last half-century. Attention to technical study and a huge increase in the breadth of the repertoire and the number of didactic methods, conservatories, teachers, performers and competitions, has arguably resulted in the present generation of guitarist-performers focusing more exclusively on the development and refinement of instrumental technique than the guitarists of the early-mid-20th century. The evidence of this may be seen most prominently in the repertoire, where composers of guitar music have continued to extend the technique of players with more complex musical textures that call for innovative approaches to guitar technique.[28]

[28] See for example, Toru Takemitsu, *In The Woods* (Tokyo: Schott Japan, 1996); Atanas Ourkouzounov, *Sonate pour*

Despite the apparent increase over the last 50 years in emphasis on technical proficiency (in the narrow sense of the rapid and flawless execution of notes), literature concerning the intricate interaction between guitar fingering and musical outcomes remains scarce and limited. Certainly, there have been published a number of significant and insightful articles and book chapters that address this subject,[29] but in my opinion these often all-too-brief contributions never go far enough in illuminating the influence of fingering as a decisive factor in music-making on the guitar. Resources concerning interpretation are often lacking in detail as to specifically *how* fingering influences aspects of performance such as for example, phrasing and articulation. Literature for composers is even more limited in its elucidation of fingering as a compositional tool, save for some handy references as to what notes can be played on a given string to achieve a particular timbral distinction, or what chords are physically unplayable.[30] The fact that there exists a considerable degree of research into fingering on other (non-plucked) instruments[31] only re-enforces the need for a more substantial investigation into guitar fingering.

Beyond simply addressing the need for more substantial literature on the subject of guitar fingering, the suggestion that fingering plays a critical role in performance and the process of writing guitar music raises significant questions pertaining to the current state of guitar performance internationally. With so much focus on young players entering competitions, and a clear emphasis on the performance of a limited body of

---

Guitare (Paris: Editions Henry Lemoine, 1997); Phillip Houghton, *God of the Northern Forest* (Sydney: Moonstone Music Publications, 1993); Leo Brouwer, *Sonata* (Madrid: Opera Tres, 1992); Nuccio d'Angelo, *Due Canzoni Lidie* (Paris: Editions Max Eschig, 1987). An investigation into how these works demonstrate innovative approaches to guitar technique may be found in Chapter 1.

[29] See above, n. 8. See also Angelo Gilardino, 'Il Problema Della Diteggiatura Nelle Musiche Per Chitarra: Parte Prima', *Il Fronimo*, Gennaio (1975), 5-12; Dale Miller, 'Arranging for Guitar', *Guitar Player*, January (1978), 22-23.

[30] See for example, Denis Aplvor, *An Introduction to Serial Composition for Guitarists* (Shaftesbury: Musical New Services Ltd, 1982); Felix Schell, *Arrangieren für den Gitarristen* (Hamburg: Schell Music, 2002); Chris Kachian, *Composer's Desk Reference for the Classic Guitar* (Pacific, MO: Mel Bay, 2006).

[31] See above, ns. 9, 10. See also Albert Jarosy, *A New Theory of Fingering*, trans. Seymour Whinyates (London: George Allen & Unwin Ltd, 1933); Carl Flesch, *The Art of Violin Playing*, ed. Eric Rosenblith (New York, NY: Carl Fischer, 2000).

standard extant repertoire, the present study of fingering may open doors for interpretation that extend beyond the conventional approaches that are prevalent today. Insights into interpretation can be gleaned from fingering approaches of the early-20th, and even the early-19th century guitarists. Creative solutions can also be revealed by using intelligent fingering to extend the substantive content of guitar music and generate new music that is innovative and musically compelling. This study uses fingering to suggest a more open and creative approach to guitar performance that is not limited by strict, standardised performance practice conventions, nor slavish adherence to what's written on the score. As will be seen, fingering is a powerful tool that can greatly extend a performer and composer's notion of what is possible on the guitar.

Chapter 1: A Consideration of Guitar Fingering

1.1 Introduction

When we listen to a classical guitar performance, either in concert or from a recording, we are receiving the end product of a highly considered sequence of performance decisions. Such decisions affect the timbral quality we hear, as well as myriad other complexities such as for example, the articulation of a phrase, the dynamics in a given section, and the tempo of a piece. So, how does fingering affect these and other elements of the music that we hear as listeners? More interestingly, how can fingering then be used as an interpretive tool in performance, and a factor in the process of composing and arranging guitar music? The findings of this investigation represent a consideration of selected aspects of guitar fingering. The findings identify musical intention as the determining factor in the process of choosing fingering. The breadth of this consideration may distinguish this study from other relevant sources that deal only with *examples* of fingering in selected musical contexts, usually for pedagogical purposes.[32]

Sources that provide *examples* of fingering, as distinct from a deeper consideration of fingering, form the bulk of literature on the subject. The fact that fingering for plucked instruments is most often implicitly or expressly indicated in notated scores might go some way to explaining the lack of discursive literature in this area. Tablature was the 17th- and 18th-century precursor to modern staff notation, which,

[32] There are too many sources to practicably list here that provide evidence of examples of fingering in pedagogical settings. Some of the more historically valuable sources include for example, Matteo Carcassi, *Méthode Complète Pour La Guitare, Op. 59* (Paris: The author in cooperation with E. Troupenas, 1836); Fernando Sor, *Method for the Spanish Guitar. A Complete Reprint of the 1832 English Translation with a Preface by Brian Jeffery* (London: R. Cocks & Co., 1832; rev. repr., London: Tecla Editions, 2003); Dionisio Aguado, *New Guitar Method* ed. Brian Jeffery, trans. Louise Bigwood (Madrid, 1843; repr., London: Tecla Editions, 1981); Pepe Romero, *Guitar Style & Technique* (New York: Bradley Publications, 1982); Leo Brouwer and Paolo Paolini, *Scales for Guitar* (Milan: Ricordi, 1979); Andrés Segovia, *Diatonic Major and Minor Scales* (Columbia: Columbia Music, 1980).

in scores for plucked instruments, emerged towards the end of the 18th-century.[33] Lutenists, Baroque guitarists and vihuela players would be expected to infer fingering sequences and chord shapes from the tablature.[34] Some notational conventions did exist in order to indicate the use of specific fingers. These included dots positioned beneath a letter or figure[35] to indicate which finger was to be used to pluck the strings.[36] Aside from these marks, however, fingering indications were usually inferred by the player reading from the tablature.

The early-19th century saw a significant rise in notated fingering indications, when fingering began to assume pedagogical importance.[37] The increasing availability of published music, and the growing market of amateur guitarists, may explain this development.[38] The majority of fingering indications in guitar music of the early-19th century appear in didactic methods to assist the student in learning the positions of the notes on the fretboard.[39] Most concert repertoire from this period does not include substantial fingering indications,[40] presumably because these are again intended to be inferred by the experienced player. This historical background may explain why discursive literature on fingering has always been scarce; since the beginning of music notation for plucked string instruments, fingering decisions were conventionally left to the player, whose experience would inform the choice of fingering in any given context. Where fingerings were notated, they would usually be provided predominately for the

---

[33] James Tyler and Paul Sparks, *The Guitar and its Music: From the Renaissance to the Classical Era* (Oxford Early Music Series; Oxford: Oxford University Press, 2002), 201.
[34] Ibid. 201, 233.
[35] Alphabetical letters indicated the order of the frets in French and English guitar scores. In Italian and Spanish guitar scores, the order of frets was indicated numerically. James Tyler and Paul Sparks, *The Guitar and Its Music: From the Renaissance to the Classical Era* (Oxford Early Music Series; Oxford: Oxford University Press, 2002) at 165-74.
[36] Ibid. 16. c.f. Lindley, 'Fingering'.
[37] Nicolas Slonimsky, 'Fingering', in Richard Kassel (ed.), *Webster's New World Dictionary of Music* (New York: Macmillan, 1998).
[38] Thomas F. Heck, *Mauro Giuliani: Virtuoso Guitarist and Composer* (Columbus: Editions Orphée, 1995) at 44.
[39] See for example, Ferdinando Carulli, *Méthode Complette, Op. 27* (Paris: N.-R. Carli, 1810); Francesco Molino, *Nouvelle Méthode pour la Guitare* (Leipzig: Bey Breitkopf & Härtel, 1813); Matteo Carcassi, *Méthode Complète pour la Guitare, Op. 59* (Paris: The author in cooperation with E. Troupenas, 1836).
[40] See for example, Mauro Giuliani, *Grande Ouverture, op. 61* (Milan: Jean Ricordi, n.d.); Napoleon Coste, *Fantasie sur deux motifs de La Norma pour la Guitare, op. 16* (Paris: E. Challiot, n.d.); Fernando Sor, *Grand Solo, op. 14* (Bonn et Cologne: N. Simrock, n.d.).

amateur student of the guitar primarily as an aid to learning the positions of the notes on the fretboard.

Although notated fingering indications are considerably more prevalent in 20th-century guitar scores, discursive literature on the subject remains limited. This limitation may be the result of the abovementioned convention of guitarists themselves inferring the order and manner of using the fingers from the notated score alone. Emilio Pujol's seminal work *Guitar School*[41] is a notable exception from the literature that goes some way towards developing a general approach to guitar fingering. First published in 1934, Pujol's work is especially significant for its documented explication of many of the teaching and playing techniques of his teacher, Francisco Tárrega[42] (1852-1909). *Guitar School* provides a useful summary of Tárrega's philosophy of fingering, which includes an attempt at developing a consistent and *musical* basis for determining 'correct fingering'. For Pujol,

> correct fingering derives in the first place from the qualitative feeling for performance. He who wishes to give every note, not only its correct pitch, but also its true value and the significance which it is intended to have, must organize in advance the movements of his fingers.[43]

The concept of giving every note 'its true value' is derived from a more general principle of fingering evident in the Tárrega-Pujol school of guitar performance. This principle favours fingering that enhances the continuity of sound; i.e., legato playing:

---

[41] Emilio Pujol, *Guitar School* ed. Matanya Ophee, trans. Brian Jeffery (repr., Columbus, OH, 1934; Madrid: Editions Orphée, 1983).

[42] It is important to remember that Pujol's text is only a secondary source of evidence of Tárrega's approach to guitar playing and composition. As such, one may assume that Tárrega would not necessarily have seen or done everything exactly as Pujol suggests.

[43] Ibid. § 161.

'In order to obtain the greatest possible continuity of sound, the fingers should be raised from the strings the least number of times that is possible.'[44]

To the extent that fingering is connected so strongly with legato playing, *Guitar School* is demonstrative of an approach to guitar fingering that draws on some of the aesthetic principles of performance peculiar to the early-20th century. These include for example, the use of *portamento* to enhance lyrical expressivity, and rubato at the service of the melody.[45] In other words, it is very much a product of its time (the role of legato articulation in contemporary performance practice will be discussed later in Chapter 2). Illuminating though the discussion of fingering is, the amount of attention devoted to the subject in *Guitar School* is nevertheless limited by the broader focus of the text. A comprehensive pedagogical work, *Guitar School* concerns itself with a huge variety of other issues relevant to guitar pedagogy such as for example, reading staff notation, and practising technical exercises. Historically contemporaneous sound recordings can further illuminate Pujol's text though, particularly the association it draws between fingering and strongly lyrical, legato playing. Audio Sample 1 features a performance of another of Tárrega's pupils and a contemporary of Pujol, Miguel Llobet. Llobet's famous legato style, driven by his extensive use of *portamento*, is an excellent example of the relationship between guitar fingering and performance aesthetic; in this case, the way in which fingering is decisive in realising aspects of performance practice peculiar to the early-20th century. Issues of greatest relevance here include legato-driven lyricism and *rubato* at the service of the melody.

♫ AUDIO SAMPLE: 1, "El Testament d'Amelia" in Miguel Llobet, *The Complete Guitar Recordings: 1925-1929* (Chanterelle Verlag/Guitar Heritage Inc. Compact Disc CHR 001, 2008).

---

[44] Ibid. § 218.

[45] Bruce Haynes, *The End of Early Music: a Period Performer's History of Music for the 21st Century* (New York: Oxford University Press, 2007), 51-2.

In *Guitar School*, aspects of the early-20th century performance aesthetic are seen to underpin Pujol's general approach to guitar fingering. By comparison, it is the physical mechanics of guitar playing that form the aesthetic basis for Abel Carlevaro's approach to fingering in his 1984 publication *School of Guitar*.[46] In this work, Carlevaro provides a thorough investigation of the mechanism of playing technique. Carlevaro's conception of guitar fingering is construed very broadly:

> A musical piece can prove difficult and impractical, or easy and accessible, depending on the *fingering* selected and the *subsequent mechanics used*. Fingering, its details and application, involves such subtleties that one could be led hopelessly astray without a true consciousness, without an instrumental framework to enhance as well as comply with a work intelligently and efficiently.[47]

For Carlevaro, this broad concept combines the selection of fingering with the subsequent mechanics of its execution.[48] Carlevaro concludes that fingering is 'intimately related to the gradual development of one's *awareness of the muscular mechanism*.'[49] He thus surmises that 'good technique is incompatible with bad fingering.'[50] Carlevaro's approach to fingering is unique in its description of fingering in terms of the complex issue of muscular mechanism, which is shown to inform and substantiate the author's fingering decisions.

Eduardo Fernandez's 2008 publication *Technique, Mechanism, Learning: An Investigation Into Becoming a Guitarist*[51] also draws on mechanism and technique as the primary basis for a general approach to guitar performance. Fernandez's text

---

[46] Abel Carlevaro, *School of Guitar* trans. Jihad Azkoul and Bartolomé Díaz (Montevideo: DACISA S.A., 1984).
[47] Ibid. 135.
[48] Ibid.
[49] Ibid.
[50] Ibid.
[51] Eduardo Fernández, *Technique, Mechanism, Learning: An Investigation into Becoming a Guitarist* (2nd edn.; Columbus, OH: Guitar Heritage Inc., 2008).

provides useful theoretical and conceptual foundations for the formation of a comprehensive technical ability and an overall approach to learning guitar music. This approach focuses on the development of an integrated kinesthetic feel for physical movements that enable the player to realise intended musical ideas.[52] Guitar fingering is central to this approach. For Fernandez,

> Fingerings, in guitar, determine not only how the passage will be articulated, but its very sound, soul and style...there is an inseparable relationship between fingerings and musical result...Fingering is already interpreting; it is not looking for the easiest way of playing all those notes, but looking for the least complicated way of realizing our musical conception of the passage.[53]

Fernandez's approach outlined in this text places fingering at the heart of the process of learning a work, and encompasses the notion of physical mechanism that Carlevaro expounded in his earlier work. Further, Fernandez's approach is significant in its recognition of the player's 'musical conception of the passage' as the starting point for determining fingering. In this way, Fernandez links fingering to musical interpretation.

Consistent among all three of these approaches to fingering (i.e. Pujol's, Carlevaro's and Fernandez's) is the observation that *fingering and performance style are intrinsically linked.* Fernandez illustrates this with reference to Andrés Segovia, whose 'fingerings themselves forces [*sic*] a certain phrasing and articulation, sometimes a particular kind of *rubato*, and an idea of what a "beautiful" sound is, which

[52] Ibid. 9.
[53] Ibid. 11.

correspond to Segovia's time and style.'[54] This central tenet notwithstanding, the larger scope of each of these works precludes a comprehensive theory of fingering.

The present consideration of guitar fingering unpacks the highly complex decision-making process with which a player or guitarist-composer approaches a given piece of guitar music. In this way, it is intended here that a complex web of context-dependent understandings will emerge. This will enable the reader to add breadth to his or her interpretive and compositional outcomes through deepened understanding of the process itself. Critically, it is suggested here that fingering is a *process*, that is an activity positively undertaken by the player or guitarist-composer when approaching a piece of guitar music. This is distinct from any notion that fingering simply represents notated instructions on a page that aid the player in the physical realisation of pitches on their instrument.[55] An understanding of fingering as a process widens the scope of the present study to include an investigation of many relevant issues arising when the process is undertaken.

The consideration of guitar fingering presented here identifies four main issues that are suggested to encompass most of the concerns taken into account when a performer or guitarist-composer is engaged in the process of guitar fingering. These issues have been selected based on the relative frequency with which they emerge in the literature, in addition to my own experience of studying guitar performance and composing and arranging music for the guitar. For the purposes of the present study, the 'literature' refers not only to written sources that provide examples of or instruction as to fingering (for example, guitar methods) but also the repertoire itself, where fingering is expressly notated as well as being implicit in the notation. The four issues of focus for the present study are:

[54] Ibid.
[55] See above, n. 5.

1. Fingering and Phrasing;
2. Fingering and Sonority;
3. Mechanism and Technique; and
4. Notational Conventions.

As stated in the Introduction, the theoretical study of musical textures contributes much of the terminological framework for this thesis's investigation into guitar fingering. Predominately a 20th century consideration, the study of musical textures has evolved considerably from its earliest published reference in Constant Lambert's 1934 work *Music Ho! A Study of Music in Decline*.[56] While a comprehensive review of available literature on musical textures lies beyond the scope of this study, significant attention is given to the terminological framework developed by Wallace Berry, whose seminal work *Structural Functions of Music*[57] contains one of the most detailed investigations of textural analysis I have encountered. The present study makes valuable use of Berry's terminological framework to present a distinctly thorough investigation of guitar fingering and its interaction with musical textures. This type of investigation is unique in that it attempts to go beyond the mere description of the types of textures available on the guitar,[58] instead presenting a more probing exploration of the subtle interactions between fingering and textures. Adopting the language of musical textures to describe fingering and its interaction with both phrasing and sonority permits a rich and substantial investigation into the influence of guitar fingering on the music that is heard.

---

[56] Constant Lambert, *Music Ho! A Study of Music in Decline* (London: Faber and Faber, 1934), 44.
[57] Berry, *Structural Functions in Music*.
[58] For examples of textural possibilities in guitar music see for example, Chris Kachian, *Composer's Desk Reference for the Classic Guitar* (Pacific, MO: Mel Bay, 2006), 13. Kachian devotes an entire chapter to the different types of textures available on the guitar including for example, monophony, 2-voice homophony and limited polyphony, as well as textures comprising multiple moving voices. Without using the term 'fingering' even once in this chapter, Kachian nevertheless makes fundamental connections between issues arising from musical textures and guitar fingering including for example, the capacity for open strings to facilitate resonance and physical freedom.

1.2 The Four Key Issues Briefly Introduced

Fingering and Phrasing

The idea that fingering is connected to phrasing is based on the syllogistic conclusion that fingering affects articulation,[59] and that articulation influences the construction and delineation of groups of notes, or phrases. The latter premise has been asserted in numerous sources dating from as early as perhaps the 18th century. For example, Joaquin Quantz's instruction on the use of the tongue and breathing, is instructive as to the construction of groups through articulation in Baroque flute music.[60] In the 20th century, one might refer to the work of writers such as for example, Hermann Keller, who in his 1965 publication discusses articulation with respect to the staccato, the non-legato and the legato in the context of delineating phrases.[61]

That guitar fingering is influential in articulation may be evidenced in Dionisio Aguado's *New Guitar Method* published in 1843. Here, Aguado discusses the technique of 'reading and playing two-part music.'[62] Aguado cautions the student 'not to make mistakes with the fingering of the left hand if both parts are to be played correctly,'[63] and provides an example where fingers of the left hand are to be lifted in order to render true metrical value to crotchets and shorter quavers.[64] Aguado's awareness of the influence of guitar fingering in playing two- and three-part music connects with the broader issue of delineating independent voices in multilinear textures. Under the sub-title "Texture: multiple moving voices", Aguado observes that '[o]ne of the most

[59] Aguado, *New Guitar Method*, 22.
[60] Johann Joachim Quantz, *Versuch Einer Anweisung Die Flöte Traversiere Zu Spielen*, trans. Faber And Faber (Berlin, 1752; repr., London: Faber and Faber, 1966).
[61] Hermann Keller, *Phrasing and Articulation*, trans. Leigh Gerdine (London: Barrie and Rockliff, 1965), 35.
[62] Aguado, *New Guitar Method*, 22.
[63] Ibid. 23.
[64] Ibid. 'In bar 4, the third beat is taken up by two silences or rests…These rests mean that no sound is played; for this purpose, the fingers stopping the strings which produce them are lifted; but on the third string, which plays G, this is not enough to still its vibrations for the value of the rest; the finger of the right hand which plucked it must be placed on it *at the right moment*.'

important aspects of good guitar playing is how to hold the notes of one part while the notes of another are moving.'[65] The way left-hand fingering in particular is determinative of pitch durations is an important tenet of the relationship between articulation and phrasing in the clear expression of multilinear textures.

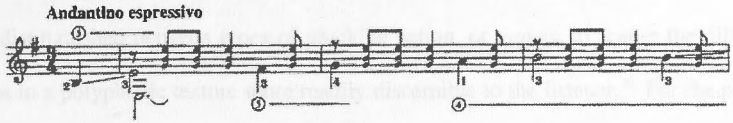
Fingering and Sonority

Sonority encompasses issues of textural composition, including the doubling of notes, as well as timbral contrast.[66] Aguado's *New Guitar Method* is again useful as an early source of information regarding guitar fingering and its relationship with timbre. Aguado refers to *equísonos*[67], or equivalent sounds, denoting the capacity to play one note on up to three different strings on the guitar, each with a different timbral characteristic. This is therefore an issue of guitar fingering, as it is the notated fingering indications in a score that are used to distinguish between the strings available for a given pitch. Other interesting issues relating to tone colour and fingering may be found in Fernando Sor's 1832 *Method for the Spanish Guitar*, which describes the practice of imitating orchestral instruments.[68] The relationship between timbre and fingering is evident in a wide variety of repertoire. One notable example might be Heitor Villa-Lobos's *Prelude No 1*, where the opening melodic theme is fingered high up on the lower, metal-wound bass strings, producing a cello-like sound that is richer and full of lower frequency partials than if the melody were fingered in the first position, incorporating the treble strings [Ex. 1.1]:

---

[65] Ibid. § 151.
[66] Berry, *Structural Functions in Music*, 192.
[67] Aguado, *New Guitar Method*, § 102.
[68] Fernando Sor, *Method for the Spanish Guitar. A complete reprint of the 1832 English translation with a preface by Brian Jeffery* (London: R. Cocks & Co., 1832; rev. repr., London: Tecla Editions, 2003), 18.

Ex. 1.1 Heitor Villa-Lobos, "Prelude no. 1" in *Cinq Préludes*, ed. Frédéric Zigante (Paris: Eschig, 2006), mm. 1-3. ♫ AUDIO SAMPLE: 2.



While fingering is most illuminating in its interaction with phrasing and sonority, there are two other issues that may be said to run in the background of the topics expounded thus far. These issues are given the labels *mechanism and technique* and *notational conventions*. Unlike phrasing and sonority, these background issues do have a presence, albeit a varied one, in the relevant literature. As such, their application to the present study is focused on the drawing of these issues together and their connection with the issues discussed above, in order to generate an holistic and helpful approach to fingering for the performer and composer. Mechanism and technique is first discussed for the purposes of bringing to the reader's attention some of the subtle yet significant factors in guitar fingering that bring the execution of a passage into the realm of the idiomatic or playable. Notational issues are relevant primarily with respect to how changes in notational conventions since the early-1800s may influence interpretive decisions for the contemporary performer.

Mechanism and Technique

The interaction between guitar fingering and mechanism and technique is understood intuitively by the experienced player of the guitar. In this respect, an advanced player may choose fingerings that allow for the greatest accessibility of the required pitches. Sor for instance, observes that '[i]n a passage which should be executed rapidly, it is very useful to take advantage of a position to produce the greatest

numbers [*sic*] of notes included in it.'[69] This may be referred to as fingerings that are *idiomatic* for the player. Discussion of mechanism and technique developed significantly in the 20th century with guitarists such as for example, Abel Carlevaro, who distinguished between types of plucking action, or *toques*, to render the different voices in a polyphonic texture more readily discernible to the listener.[70] For the player, the decision-making process concerning fingering is most often concerned with finding the most idiomatic way of realising a passage. Although this can be quite a personal process (for which empirical observation is arguably restricted), a discussion of how fingering reflects aesthetic preferences will be relevant in illuminating the interaction between technique and matters of interpretation in performance. As a matter of interest, it is worth acknowledging attempts that have been made to use computer-driven algorithms that determine the most efficient, economical fingerings, including Daniele Radicioni and Vincenzo Lombardo's *Guitar Fingering for Music Performance*.[71] While this sort of research is interesting, it does not take into account the fluid relationship between idiomatic efficiency, and musical intention and expression that a player may typically consider when deciding on fingerings.

Notational Conventions

Guitar fingering for the left hand is usually found in notated scores in the form of Arabic numbers. Where these numbers are contained in a circle, a string is indicated. Where no circle is indicated, an Arabic number represents a left-hand finger (fretting hand).[72] Letters derived from the Spanish names of the right-hand fingers are used to indicate which plucking finger is to be used (*p*, *i*, *m* and *a* for thumb, index, middle and

[69] Sor, *Method for the Spanish Guitar*, 31.
[70] Carlevaro, *School of Guitar*, 50-60.
[71] Daniele Radicioni and Vincenzo Lombardo, 'Guitar Fingering for Music Performance', *International Computer Music Conference* (Proc. International Computer Music Conference; Barcelona, 2005), 527-30. The authors generate graphs and algorithms for the automatic determination of playable fingering in selected musical contexts. These fingerings are checked against those of a real (human) guitarist with 90% accuracy.
[72] See for example, Andrés Segovia, *Diatonic Major and Minor Scales* (Columbia: Columbia Music, 1980).

ring fingers, respectively).[73] It is interesting to observe how notational devices for fingering have changed over the past 200 years, since the increase in the availability of printed music.[74] Various other signs and symbols have also played their part in specifying which fingers to use, some of which have changed in meaning over this time. For example, the slur mark connecting two consecutive bass notes was in the first decades of the 19th century used to indicate the drawing of the right-hand thumb across two adjacent strings,[75] an indication that no longer applies to guitar music.

In creating a web of context-dependent understandings based around these issues, it is suggested that these four categories interact in a fluid, interdependent manner when a performer or guitarist-composer is engaged in the process of fingering. For example, a guitar score from the early-19th century may visually depict a two-voice polyphonic texture as one voice. This presents certain challenges for the performer, encompassing both a consideration of notational conventions as well as implications for phrasing and articulation. Similarly, a performer may choose a fingering that emphasises legato articulation and *portamento* in a melodic passage in order to lend a certain expressive quality to the music. In this case, articulation and tone colour (sonority) interact in the realisation of the melodic passage.

There are innumerable examples that could be given to explore and better understand the various interactions between the above issues arising from fingering, and so it is not suggested here that the present study will provide an exhaustive account of this process. Further, this study acknowledges that the issues described above are profoundly and intrinsically interconnected. This reality aside, it is suggested here that systematic analysis of each issue in its own right is useful as an analytic methodology.

---

[73] Christopher Parkening, *The Christopher Parkening Guitar Method, Vol. 1* (Milwaukee, WI: Hal Leonard Corporation, 1972; rev. ed. 1999), 14.
[74] Heck, *Mauro Giuliani: Virtuoso Guitarist and Composer*, 44.
[75] See below, n. 140.

To this end, the present study aims to be valuable for its systematic exploration of each issue as a means of building a more complex understanding of the influential role of guitar fingering. Where it is deemed necessary in the case studies of Chapters 2 and 3, however, certain of the above categories may be disregarded and focus unevenly distributed in order to best discuss the issues arising from fingering that are most pertinent to the work in question. Lastly, insofar as the analysis permits, fingering will be connected more broadly to a musical aesthetic approach, whether it be historic (for example, based on the interpretive practices of a given period in music history) or contemporary. It is intended that analysis of this nature will illuminate the various aspects of the decision-making process concerning fingering in order that the performer and/or composer may deepen his or her contextual understanding and add breadth to his or her musical interpretations and original compositions.

1.2.1 Fingering and Phrasing

This thesis now turns to examining literature relevant to a more thorough exploration of each of the four primary categories introduced above. As has been suggested, guitar fingering lies at the heart of the relationship between articulation and phrasing. Fingering is often critical in determining the articulation of a musical phrase, whether it be staccato or legato, or something in-between. The relationship between articulation and phrasing is discussed by Hermann Keller who, in his 1965 publication *Phrasing and Articulation*, proposed to 'designate the connection of two, three, or more notes, if they act in the formation of a motif, as "the construction of groups through articulation."'[76] To understand how fingering affects articulation, and to accept that articulation is a determining factor in the grouping of notes into phrases, is to establish a link between fingering and phrasing, which is the subject of the present inquiry.

[76] Hermann Keller, *Phrasing and Articulation*, trans. Leigh Gerdine (London: Barrie and Rockliff, 1965), 54.

The suggestion that guitar fingering is critical to the designation of musical phrases through articulation is presented here as central to the development of a practical and considered understanding of fingering for performers and non-guitarist composers. The examples below, including works selected from the guitar repertory, are used to illustrate the central role of guitar fingering on the construction of a musical phrase. The present investigation then turns to the role of fingering in the assertion of interlinear independence in multilinear textures. On this issue, the concept of fingering as critical to the construction of groups through articulation will be illuminated through numerous examples of homophonic and polyphonic textures, where fingering will greatly influence the assertion of independence between constituent voices.

The Construction of Groups through Articulation

The often-drawn parallel between speech in language and articulation in music is useful as a point of departure towards understanding how groups of notes are constructed through articulation. Keller observes that 'as with phrasing, we can derive principles of musical articulation from language...to separate [vowels and consonants] from one another is the task of speech articulation.'[77] Within this context, the separation of notes from one another is central to musical articulation. Phrases are constructed by separating groups of notes, which are internally connected through legato or uninterrupted articulation.

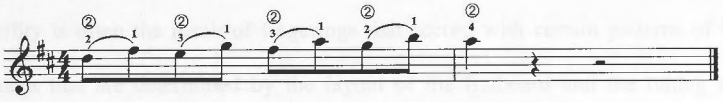
Exs. 1.2 and 1.3 show a simple comparison to introduce this concept. In Ex. 1.2, the left hand undergoes longitudinal displacements[78] at the commencement of each phrase group (occurring at every ♩). This shift forces a subtle yet nevertheless noticeable interruption in the sound. This separation of notes is offset by internal legato within

[77] Ibid. 31.

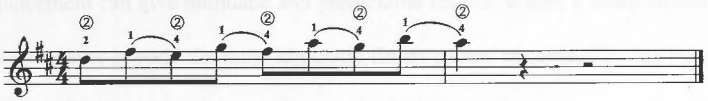
[78] For the purposes of this study the term longitudinal displacements denotes the shifting of left-hand position, as indicated by the location of the 1st finger, from one fret to another. See Carlevaro, *School of Guitar*, 77-83.

each phrase group, effected by the fingering of consecutive notes across adjacent strings. The difference between these two examples is readily appreciable when comparing their respective audio samples. Ex. 1.3 has an alternative delineation of phrase groups where the descending stepwise pairs of notes are emphasised on the off-beats. Again, it is both the left-hand longitudinal displacements that now occur at every off-beat, as well as the cross-string fingering within each phrase group (asserting legato connectivity within the phrases) that make this alternative delineation of phrase groups discernible.

Ex. 1.2 Ascending thirds with note groupings on down-beats. ♫ AUDIO SAMPLE: 3.



Ex. 1.3 Ascending thirds with note groupings on off-beats. ♫ AUDIO SAMPLE: 4.



That the difference is readily appreciable between the audible realisations of the examples above, despite the fact that each contains identical notes and rhythms, is indicative of the expressive power of phrase groupings through articulation. Keller observes how 'the feeling for the variety of expressive possibilities of articulation arose and grew in the seventeenth and eighteenth centuries...articulation is to be viewed as a function of melody.'[79] In guitar performance, fingering can often play a decisive role in determining the expressive quality of a phrase. In Ex. 1.4, guitarist David Tanenbaum adopts a similar approach to the fingering of rising thirds as demonstrated in Ex. 1.2. For Tanenbaum, 'keeping the rising thirds on the same strings...convey[s] a physical

[79] Keller, *Phrasing and Articulation*, 32.

(and visual) sense of upward activity. This is something we guitarists don't experience as naturally as vocalists and many other instrumentalists.'[80]

Ex. 1.4 David Tanenbaum, "Scarlatti and the transcription process", *Guitar Player*, 20/September (1986), 90-1, 91. ♫ AUDIO SAMPLE: 5.

Tanenbaum's fingering of these rising thirds facilitates a degree of continuity of sound quality and legato by virtue of being the easiest way to play this passage. Ease of playability is often the result of fingerings that accord with certain patterns of finger placement that are determined by the layout of the fretboard and the tuning of the strings. In the composition of guitar music, over reliance on such obvious patterns of finger placement can give mundane and predictable results. Where a compositional idea extends the player beyond the most idiomatic finger patters suggested by the instrument, the process of guitar fingering can become a highly creative act containing a strong element of problem solving.

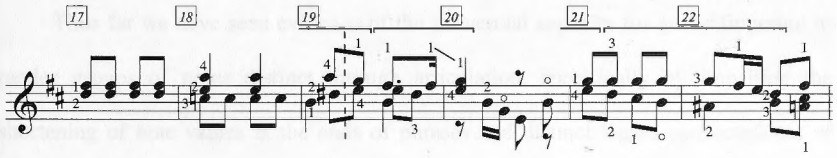
Creativity in the process of choosing fingerings is often very much reliant on the player's musical knowledge and experience. In evaluating the fingering shown in Ex. 1.5, the player must consider the interaction between melodic phrasing and harmony. In m. 19 at 1♩, the indicated swapping of fingers 1 and 4 from ③ and ① to ① and ② respectively, forces a break in the continuity of sound between melodic components **a'** and **g'**. This break in sound occurs as the harmony resolves from the dominant seventh chord (B7) to the tonic (Em).[81] This forced separation between two resolving chords

[80] David Tanenbaum, 'Scarlatti and the Transcription Process', *Guitar Player*, 20/September (1986), 90-1, 91. Note that in Tanenbaum's musical example (shown here in Ex. 1.4), the correct fingering at 3♪ of the first measure should read 1 for $C_{\sharp}$ and 3 for $c_{\sharp}$.

[81] An alternative fingering which maintains a legato connection through the harmonic resolution at 1 ♩ in m. 19 is to

would appear at odds with a fundamental tenet of Sor's own rationale for fingering: '...I almost always make the fingering which I employ for melody depend on that which I use for harmony.'[82] In this example, it is possible that the notated fingering may be editorial, or indeed a misprint, which was not uncommon in published guitar scores from the early-19th century.[83] A more appropriate instance of separating melodic notes into distinct groups may be seen in m. 21 of the same example. Here, the first two ♪s (repeated **g'** in the melody) are separated with a swap of left-hand fingers 1 and 3, creating a new group of notes starting from the dissonant 2♪.

Ex. 1.5 Fernando Sor, "Leçons Progressives, Op. 31, No. 4", in Brian Jeffery (ed.), *Fernando Sor: Complete Works for Guitar* (1977 edn., 3; New York: Shattinger International Music Corp., 1829-1839), mm. 17-22. Phrasing indications are my own. ♫ AUDIO SAMPLE: 6.



An example of the active application of fingering to render larger-scale phrase groups distinct through articulation may be seen in guitarist Frank Koonce's fingered edition of the solo lute works of Johann Sebastian Bach.[84] The excerpt from the Fugue BWV 1000 provided in Ex. 1.6 has been annotated with brackets to show the phrase divisions rendered audible as a result of the fingering. Here, the fingering within each phrase group (the fugue subject in fact) impels a longitudinal displacement of the left hand by sliding without effecting a break in sound. Shifts that do impel a break in the

---

realise **b** with 2 on ③, **d♯'** with 3 on ② and **a'** with 4 on ①, which frees the 1st finger to smoothly connect the resolving **g'** to the preceding **a'**.

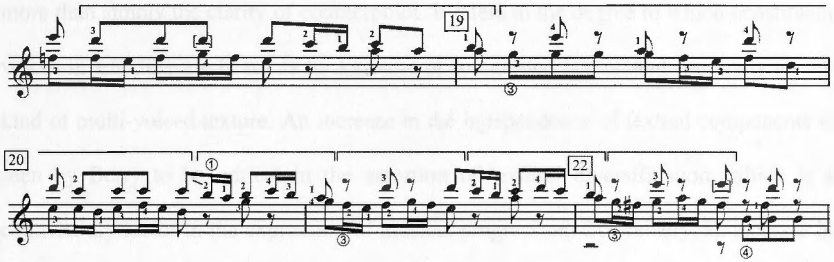
[82] Sor, *Method for the Spanish Guitar*, 28.

[83] See Brian Jeffery, 'Playing from original editions, especially 19th century guitar music', <http://www.tecla.com/misc/origedns.htm>, accessed 19 November 2012: 'Sometimes, however, the original editions do present problems, and then something has to be done. This is the case, for example, with Sor's Lessons op. 31 and Exercises op. 35, whose original editions were faintly printed and hence hard to read...and whose fingering contained large numbers of errors.'

[84] Johann Sebastian Bach, *Johann Sebastian Bach: The Solo Lute Works*, ed. Frank Koonce (2nd edn.; San Diego: Neil A. Kjos Music Company, 2002).

continuity of sound are placed to allow the phrase structure and note groupings to be clearly heard throughout the passage (mm. 19-22). The corresponding audio sample enables one to hear these phrase group divisions made clear by the fingering.

Ex. 1.6 Johann Sebastian Bach, "Fugue, BWV 1000" in *Johann Sebastian Bach: The Solo Lute Works*, ed. Frank Koonce (2nd edn.; San Diego: Neil A. Kjos Music Company, 2002), 81, mm. 18-22. ♫ AUDIO SAMPLE: 7.



Thus far we have seen evidence of the influential capacity for guitar fingering to render groups of notes distinct through articulation, specifically by impelling the shortening of note values at the ends of phrases and distinct legato connectedness of notes within phrases. The following section will continue this investigation, taking into account the interaction of different phrase groups within multilinear textures, while Chapters 2 and 3 will apply in greater depth this particular function of fingering to case study analyses of selected guitar works.

Phrasing and Interlinear Independence

The present study now turns to fingering as constructive of phrase groups through articulation in the context of asserting interlinear independence. The notion of interlinear independence is taken from the theory of textural analysis first established by Wallace Berry and Anne Carothers Hall in the 1970s. Berry's 1976 publication *Structural Functions in Music* significantly develops the theory first expounded by Hall

in her doctoral dissertation of 1971.[85] This theory of textural analysis has as its central tenet the notion of independence-interdependence relations between textural components: 'Much of the concern with texture is directly involved with what is undoubtedly the most fundamental and significant criterion of textural quality - *the relative independence and interdependence of its components*.'[86] This encompasses more than simply the clarity of counterpoint. It refers to the degree to which constituent voices in a texture are heard as background or foreground layers, and can apply to any kind of multi-voiced texture. An increase in the independence of textual components is seen by Berry to be critical in the assertion of textural diversification, which is a contributory factor in the expression of musical progression. Conversely, an increase in interdependence is associated with increased conformity between textural components, and a corresponding tendency towards musical recession.[87]

Central to the present study is the influential role of fingering in affecting the independence-interdependence relations between textural components, which might comprise anything from individual pitches to large constituent parts of a texture occurring over a long span of time (say for example, a repeated accompanying figure or a melodic line). The present study will now demonstrate how guitar fingering plays a critical role in independence-interdependence relationships between textural components by virtue of its influential role in the construction of groups through articulation. For example, the use of fingerings that facilitate a legato, or uninterrupted, connection between consecutive notes may increase the independence of a melodic line

[85] Anne Carothers Hall, 'Texture in Violin Concertos of Stravinsky, Berg, Schoenberg, and Bartók', Ph.D. diss. (University of Michigan, 1971).
[86] Berry, *Structural Functions in Music*, 213.
[87] Ibid. 186.

above an accompanying arpeggio figure (which, conversely, may be characterised by a high degree of interdependence owing to its legatissimo connectedness[88]).

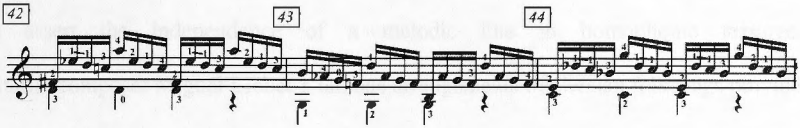
In Berry's discussion of textural analysis, articulation is described as a device of 'textural activation.'[89] In this sense, relatively inert textures that are tonally, harmonically or melodically simple, direct and minimalistic, may undergo '*compensatory activation*' by devices such as for example, dynamic, rhythmic, colouristic, and articulative contrast.[90] Seen in this light, articulation as an activating device may contribute to interlinear independence, especially where textures are relatively simple.

A useful example of an instance where guitar fingering may contribute to the articulative activation of a simple polyphonic texture is taken from the Prelude of Johann Sebastian Bach's Lute Suite, BWV 997. In the quoted measures, the two independent voices comprising the polyphonic texture undergo a reduction in interlinear independence by virtue of the static lower voice, which is clearly a pedal point that changes in pitch for each iteration of the upper voice phrase. Ex. 1.7 is taken from the guitar edition of Frank Koonce,[91] whose left-hand fingerings affect the articulation of the lower voice in a manner not clearly evident from the rhythmic notation alone. By virtue of requiring a different left-hand finger for each repetition of the pedal point, the resonance of each bass note is cut short (or, shorter than its notated rhythmic value). This is because the lifting of the finger that stopped the string, which determined its vibrating length, has interrupted the vibration of the string.

---

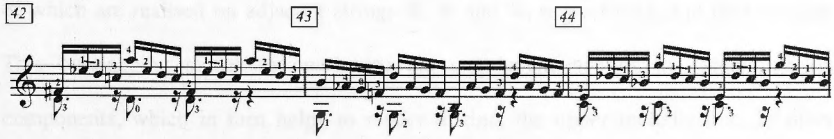
[88] i.e. where the durations of each note overlap one another.
[89] Berry, *Structural Functions in Music*, 222.
[90] Ibid. 222, 225.
[91] Johann Sebastian Bach, *Johann Sebastian Bach: The Solo Lute Works*, ed. Frank Koonce (2nd edn.; San Diego: Neil A. Kjos Music Company, 2002).

Ex. 1.7 Johann Sebastian Bach, "Lute Suite BWV 997: Prelude" in *Johann Sebastian Bach: The Solo Lute Works*, ed. Frank Koonce (2nd edn.; San Diego: Neil A. Kjos Music Company, 2002), 47-8, mm. 42-44. ♫ AUDIO SAMPLE: 8.



In this particular example, Koonce's fingering influences the articulation of the pedal point. Ex. 1.8 shows the resultant effect of shifting a finger used for the bass pedal to an upper melodic note at the last ♪ of each ♩ beat. This is particularly evident in the first and third ♩ beat of each measure, where the same left-hand finger (the 3rd finger) is used for both the pedal bass note and the last ♪ of each ♩ beat in the upper melodic voice. The result is a shortening of the ♩ bass notes to ♪., rendering in effect a non-legato articulation of the pedal point. In this way, Koonce's fingering affirms issues of performance practice that are appropriate to the style of the work itself, namely non-legato articulation.[92] For performers of Baroque music on the modern guitar, this is a very simple yet illuminating instance of the influential role fingering may play in realising aspects of historically-informed performance practices. For those involved in the transcription process, Koonce's fingering is again helpful where issues of performance practice are relevant in the transition from period to modern instruments.

Ex. 1.8 Johann Sebastian Bach, "Lute Suite BWV 997: Prelude", mm. 42-44. Pedal bass notated with rhythms affected by left-hand fingering.



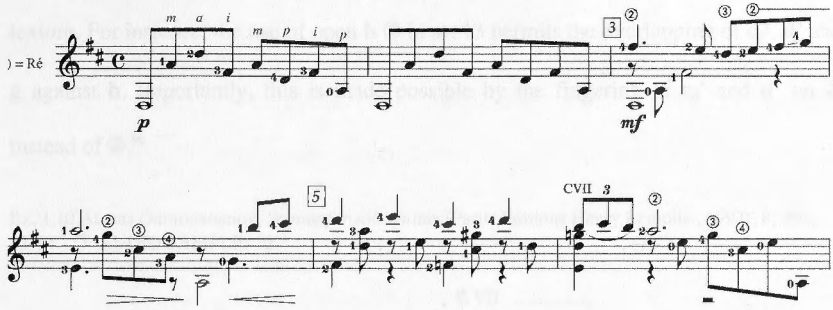
[92] Sandra P. Rosenblum, *Performance Practices in Classic Piano Music* (Bloomington: Indiana University Press, 1991), 149: 'The most widely used tonch through much of the [18th] century was the nonlegato…'

The converse of the above example of shortening note values to assert independence is the legato. Fingering that compels legato connectedness between notes can assert the independence of a melodic line in homophonic textures. Guitarist-composer Miguel Llobet's famous arrangements of Catalan folksongs provide many excellent examples of left-hand fingerings that are effective in obliging a strong legato articulation in melodic passages in order to assert melodic independence against the accompaniment. In m. 3 of Ex. 1.9, the fingering of the melodic line across the ② and ③ strings provides for timbral homogeneity by preventing the use of open strings for any melodic component (See "Fingering and Sonority", below). Legato is impelled by both the crossing from **e'** on ② to **d'** on ③ as well as by the sliding of left-hand finger 4 from **f♯'** to **g'** in m. 3. While the open **e'** could still be avoided with a 2nd position fingering, Llobet's version facilitates a more mellow timbre resulting from use of the warmer ② and ③ strings. Vibrato is also more readily realised on these strings in the 4th position than in the 2nd position on the ① and ② strings. As discussed above, the technique of sliding one finger between consecutive pitches to achieve *portamento* is a well-understood performance convention of guitarists in Llobet's time, as was the practice of fingering higher up the string to achieve timbral warmth and vibrato.[93]

Seen against the background analysis of the entire texture, the melodic line is by virtue of its strong legato contrasted with the three accompanying notes **D**, **A** and **f♯**, all of which are realised on adjacent strings ⑥, ⑤ and ④, respectively, and thus overlap. This overlapping serves to emphasise the interdependence of the accompanying components, which in turn helps to render distinct the upper melodic line. In other words, the melody is heard more clearly because its notes do not overlap one another, while those of the accompaniment do.

[93] See Pujol, *Guitar School*, § 147, 149-152.

Ex. 1.9 "Cançó del lladre" in Miguel Llobet, *Cançons Populars Catalanes*, ed. Stefano Grondona (Heidelberg: Chanterelle Verlag, 2009). ♫ AUDIO SAMPLE: 9.



An excellent example of the interaction between fingering and interlinear independence in polyphonic textures may be seen in the following excerpt from Atanas Ourkouzounov's *Sonata* for solo guitar. In the case of true polyphony, fingering may play a vital role in bringing about overlapping sonorities between independent voices in order to establish sufficient rhythmic and articulative distinction between voices, which in turn serves to render the overall texture truly polyphonic. Ourkouzounov's *Sonata* provides many instances of true polyphonic writing. As a guitarist, Ourkouzounov's thorough understanding of the instrument is evidenced in his careful indication of fingering, as well as the use of open strings, in order to permit appropriate actuation of overlapping sonorities to render the texture truly polyphonic.

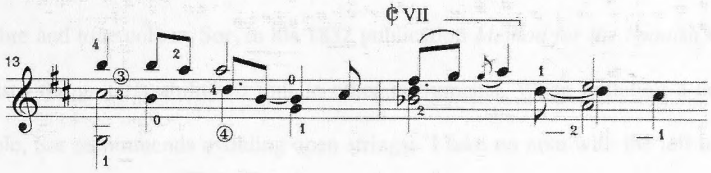
Ex. 1.10 depicts a texture comprising three contrapuntally associated voices that are contrarhythmically, contraintervallically and contradirectionally [94] inclined. Excluding the low **G** in m. 13,[95] the maximum density-compression ratio is 3:7 at 3 ♩ in m. 13, and at both 1 ♩ and 3 ♩ in m. 14. Ourkouzounov utilises a combination of open

[94] Berry, *Structural Functions in Music*, 193: 'In the following system the prefixes *homo-*..., *hetero-*, and *contra-* are adopted to refer to conditions of identity, mild and *very local* diversification (as in the conventional "heterophonic"), and more pronounced contrast, respectively.'

[95] This exclusion is made because it is the only note in the lower region of the texture-space, and as such exists outside the boundary of the rest of the texture-space.

strings and upper-position left-hand fingerings to maintain the notated rhythmic durations of each independent component within this relatively tightly-compressed texture. For instance, the use of open **b** ② in m. 13 permits the overlapping of **c♯'**, **d'** and **g** against **b**. Importantly, this is made possible by the fingering of **c♯'** and **d'** on ③ instead of ②.[96]

Ex. 1.10 Atanas Ourkouzounov, *Sonata for solo guitar* (Paris: Editions Henry Lemoine, 1997), 8, mm. 13-14. ♫ AUDIO SAMPLE: 10.



Many more examples could be provided to further illuminate the influential role of fingering on the interaction between articulation and the qualitative textural properties of guitar music. Interestingly, textures comprising highly articulated staccato passages have not been considered above. This is because the realisation of staccato on the guitar takes into account more than simply left- and right-hand fingering; the lifting of the left-hand fingers from the strings as well as the rapid stopping of the strings using the right hand are both common techniques used by players to effect staccato articulation, both of which are considered in "Mechanism and Technique", below. By avoiding discussion of mechanism and technique, and being primarily concerned with fingering and durational values, the above investigation nevertheless illustrates the influential role of fingering in determining qualitative independence-interdependence through the delineation of phrase groups using non-legato and legato articulation, as well as other devices including *portamento* and vibrato.

[96] The fingering indication of **d'** on ④ is likely to be a misprint. It should read ③.

1.2.2 Fingering and Sonority

The relationship between fingering and sonority, especially with respect to tone colour, has been relatively well-documented since the earliest didactic sources dealing with guitar performance were published at the beginning of the 19th century. Two of the earliest writers who dealt specifically with tone colour at this time were Fernando Sor and Dionisio Aguado. In their respective didactic methods, both of these guitarists devote considerable attention to the relationship between fingering and the textural issue of timbre and tone colour. Sor, in his 1832 publication *Method for the Spanish Guitar*, addresses the guitar's ability to imitate other instruments. When imitating a horn for example, Sor recommends avoiding open strings: 'I take no note with the left hand on the string to which it first belong [*sic*], but on the following string contiguous to it, so that I do not play any open string.'[97] For Aguado, the concept of equivalent sounds is critical to manipulating the timbre of the guitar. In the 1843 edition of his *New Guitar Method,* Aguado uses the Spanish term '*equísonos*' (translated into English as 'equivalent sounds') to denote those pitches that can be played at multiple frets on the guitar. Aguado describes how the varied timbres of each string may imitate the timbres of orchestral string instruments,[98] owing to the 'different thicknesses of the strings and the materials they are made of.'[99]

The middle of the 19th century saw significant changes in many aspects of the guitar's history. One of the most significant changes was in instrument construction, a leading figure of which was Antonio Torres (1817-1892). Torres built his first known instrument in Seville in 1854. His guitars were made with a larger body than their

[97] Sor, *Method for the Spanish Guitar*, 16.
[98] Aguado, *New Guitar Method*, § 195.
[99] Ibid. § 7.

early-19th century predecessors, and comprised an improved fan-bracing system capable of producing sounds with greater projection and balance between the registers.[100]

Francisco Tárrega was a major exponent of the Torres guitar. His compositional style and choice of fingerings made excellent use of the modern guitar's peculiar timbral characteristics. Tárrega's own meticulous fingerings came at a time when fingering began to assume a significant new role in notated scores, as well as in performance and compositional styles:

> Because of the tonal qualities of the Torres instrument, Tárrega took meticulous care to indicate in his written transcriptions, the exact placing of every note and where it was to be played on the fingerboard to achieve the desired effect. As with violinists and cellists, Tárrega was keen to avoid the gratuitous use of open strings, and, in particular, opted where possible for the resonances and tone colors available from notes located among the higher positions of the fingerboard. He carefully indicated the use of slurs and other effects on sound production such as the combined use of open strings with fretted notes.[101]

Tárrega's approach to fingering is best evidenced in the notated scores of his extensive catalogue of arrangements and original compositions for guitar. Emilio Pujol's *Guitar School* has already been cited as a useful source of evidence for Tárrega's approach to fingering. For Pujol, 'correct fingering not only presents the solution to many difficulties in performance, but also leads to improvements in phrasing, in sonority, and in the possibilities of each work.'[102] Thus, 'it frequently happens for reasons of ease of playing or contrast in timbre, that a note which could be played on one string, nevertheless should preferably be played on another.'[103]

---

[100] Richard Chapman, *Guitar: Music, History, Players* (London: Dorling Kindersley Limited, 2000), 18.
[101] Graham Wade, *A Concise History of the Classic Guitar* (Concise Series; Pacific, MO: Mel Bay Publications, 2001), 97.
[102] Pujol, *Guitar School* § 161.
[103] Ibid. § 141.

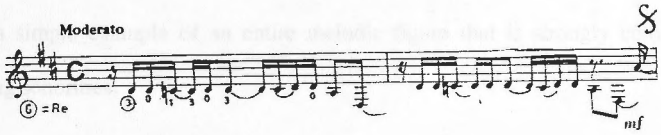
The concepts described above are fairly well-understood by guitarists today. The frequency with which colour is prioritised by contemporary performers (relative to our early-20th century predecessors) is subject to debate the likes of which lies beyond the scope of the present study. Nevertheless, very recent sources still maintain the basic principles of tone colour and fingering expounded above.[104] The present study aims to go beyond the exploitation of tone colour for the sake of contrast or effect, and instead explore more deeply the decisive role of fingering in determining particular timbral qualities that are critical to the qualitative composition of a musical idea. In other words, changes in timbral properties (by way of changing the fingering) result in substantive changes to the music itself.

The compositional technique of unison duplications provides one example of timbral contrast resulting from fingering. Unison duplications give rise to quantitative changes to a musical idea, of which both density-number and density-compression are critical. In the third movement of his *El Decameron Negro* [Ex. 1.11] Leo Brouwer employs unison duplications to colour a monolinear texture comprising a series of repeated consecutive pitches. **d** is realised on both the stopped ⑤ string and the open ④ strings. The density-number of the initial ♪. utterance is $\overset{1}{(1)}\ \overset{1}{}$, where the repeated attack of **d** commences concurrently with the continued resonance of the previous **d**. It is novel to consider the density-compression of this initial utterance, 2:1, indicating 2 distinct, sounding components of contrasting timbres occurring in unison. Brouwer adds a further colour to the repeated note figure by slurring the third iteration of **d**. Thus, we hear one **d** on the ⑤ string, one on the timbrally less dark ④ string, and one slurred (not

[104] See for example, Kachian, *Composer's Desk Reference for the Classic Guitar*, 51: 'Most pitches are easily playable in at least two and often three places on the fingerboard. It is therefore quite common for a performer to re-assign a group of pitches from one position of string to another to distinguish a phrase. As is the case with other string instruments this practice effects a substantially different tone color.'

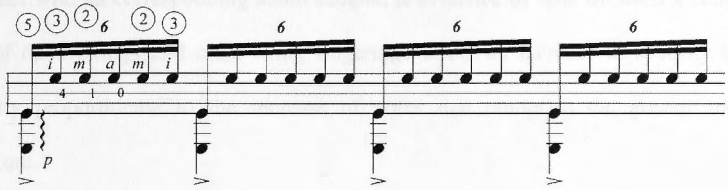
plucked) **d** with again a different colour (owing to its being slurred and not plucked). It is perhaps peculiar to the guitar that one pitch can enjoy so many differences in timbre within such rapid succession. Using this fingering technique, Brouwer also facilitates a particular rhythmic fluency and forward motion that is not as readily achievable otherwise.

Ex. 1.11 "Balada de la doncella enamorada" in Leo Brouwer, *El Decameron Negro* (Habana: Editora Musical de Cuba, 1981), mm. 1-2. ♫ AUDIO SAMPLE: 11.



In his *Etude no. 11*, Villa-Lobos famously employs unison duplications to render three distinct **e'** pitches in extremely rapid succession. Ex. 1.12 shows the right-hand fingering of **e'** across the ③, ② and ① strings with implied right-hand fingers *i*, *m* and *a*, respectively. Fingerings for the left hand remain static with a considerably wide stretch of four frets between the 1st and 4th fingers. With each string characterised by its own peculiar timbral characteristics, combined with the sheer rapidity of the attack of each repeated note, the effect of this technique is nothing short of stunning. Villa-Lobos goes on to continue the same right- and left-hand fingerings, effecting melodic changes through only longitudinal displacements of the left-hand chord shape. That these displacements are the only change in technical idea demanded of the player allows this passage to sound much more virtuosic than it actually is to play!

Ex. 1.12 "Etude no. 11" in Heitor Villa-Lobos, *Cinq Préludes* (Paris: Max Eschig, 1953; repr., Paris: Max Eschig, 1990), m. 49. ♫ AUDIO SAMPLE: 12.



The introductory section to Nuccio D'Angelo's *Due Canzoni Lidie* [Ex. 1.13] provides a simple example of an entire melodic figure that is strongly coloured by overlapping sonorities.

Ex. 1.13 Nuccio d'Angelo, *Due Canzoni Lidie*, 1st movement (Paris: Editions Max Eschig, 1987). ♫ AUDIO SAMPLE: 13.

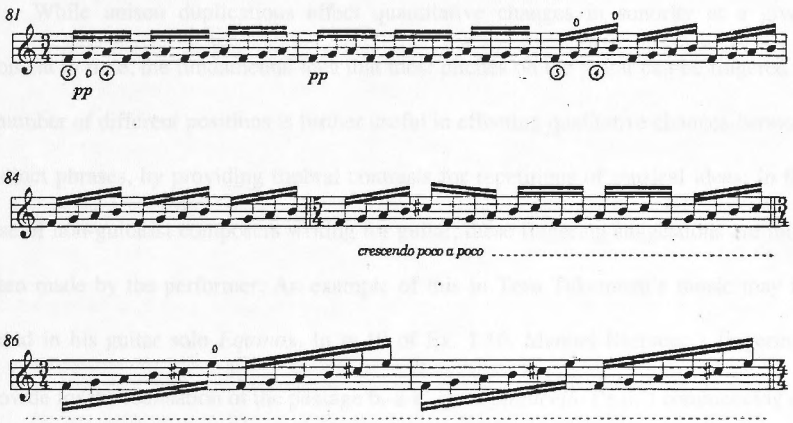
A Berrian quantitative analysis of density-number here shows the accumulative effect of cross-string fingerings bringing about overlapping sonorities. In the initial utterance 𝅘𝅥𝅯 𝅘𝅥 𝅘𝅥 for example, the density-number may be illustrated as $\begin{matrix} 1 & 1 & 1 \\ & (1) & (1) \\ & & (1) \end{matrix}$, where the components in parentheses denote the continued resonance of each pitch after it has been plucked.[105]

Brouwer may again be drawn upon to illustrate the colouring effects of cross-string fingerings on monolinear textures. In his exceedingly popular *Sonata* of 1990, Brouwer's famed use of additive stepwise melodic structures is here

[105] These overlapping notes are restricted in their independence because their sounding resonance decays after the initial moment of attack. When played at the indicated tempo, however, the continued resonance of each note is sufficient to overlap one another, resulting in the accumulation of overlapping sonorities.

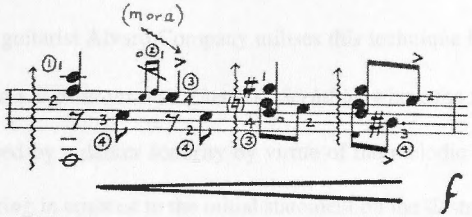
complemented by a progressive accumulation of overlapping sonorities. Ex. 1.14, together with its corresponding audio sample, is evidence of how Brouwer's combined use of open strings and cross-string fingerings effect an increase in sonority that is directly proportionate to the increase of notes that comprise the greater melodic structure.

Ex. 1.14 Leo Brouwer *Sonata* (Madrid: Opera Tres, 1992), mvt. III, mm. 81-87. ♫ AUDIO SAMPLE: 14.



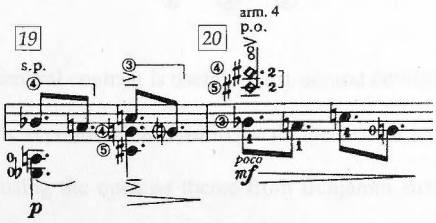
The application of unison duplications to ornamental figures is a frequently used device of the Australian guitarist-composer, Phillip Houghton (b. 1954). A nice example of a simple inverted mordent is taken from his solo work *God of the Northern Forest*, where the alternating **e'-f'-e'** ornament is executed with one finger of the right hand being drawn across 3 adjacent strings. The primary note **e'** that forms part of the melodic line is thus realised on the darker ③ string [Ex. 1.15]:

Ex. 1.15 Phillip Houghton, *God of the Northern Forest* (Sydney: Moonstone Music Publications, 1993), m. 23. ♫ AUDIO SAMPLE: 15.



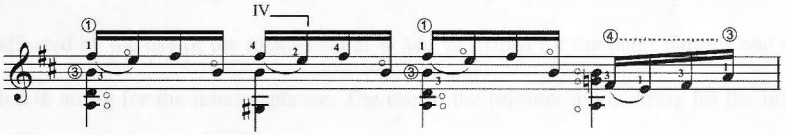
While unison duplications effect quantitative changes in sonority at a given moment in time, the fundamental idea that most pitches on the guitar can be fingered in a number of different positions is further useful in effecting qualitative changes *between* distinct phrases, by providing timbral contrasts for repetitions of musical ideas. In the case of non-guitarist composers writing for guitar, these fingering suggestions are most often made by the performer. An example of this in Toru Takemitsu's music may be found in his guitar solo *Equinox*. In m.19 of Ex. 1.16, Manuel Barrueco's fingerings provide for the realisation of the passage **B♭-a-c'-g** *sul ponticello* ('s.p.') commencing on the ④ string, whereas the subsequent repetition in m. 20 is fingered in the natural right-hand playing position on the ③ string. The result is a most effective timbral contrast.

Ex. 1.16 Toru Takemitsu, *Equinox*, ed. Manuel Barrueco (Tokyo: Schott Japan, 1995), mm. 19-20. ♫ AUDIO SAMPLE: 16.



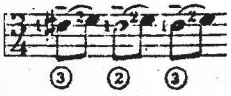
Fingering for timbral contrast may in this instance be seen as a structural device, highlighting repetitions of passages but imbuing each repetition with a distinct timbral characteristic. The guitarist Alvaro Company utilises this technique in his fingerings for Alexandre Tansman's *Variations on a Theme of Scriabin*, where the repetition at 2 ♩ [Ex. 1.17] is characterised by a darker sonority by virtue of the melodic line being fingered on the thicker ② string in contrast to the initial statement on the ① string.

Ex. 1.17 Alexandre Tansman, *Variations on a theme of Scriabin*, ed. Alvaro Company (Paris: Max Eschig, 1972), var. III, m. 9. ♫ AUDIO SAMPLE: 17.



Julian Bream, whose fingerings would often suggest a prioritisation of timbral contrast over technical efficiency, also occasionally used this same technique. An example of this appears in the simplest of musical passages; a repeated **d♯'-e'** repetition that Bream fingers in different positions and on different strings to create timbral contrast [Ex. 1.18]:

Ex. 1.18 William Walton, *Five Bagatelles*, ed. Julian Bream (London: Oxford University Press, 1974), m. 30. ♫ AUDIO SAMPLE: 18.

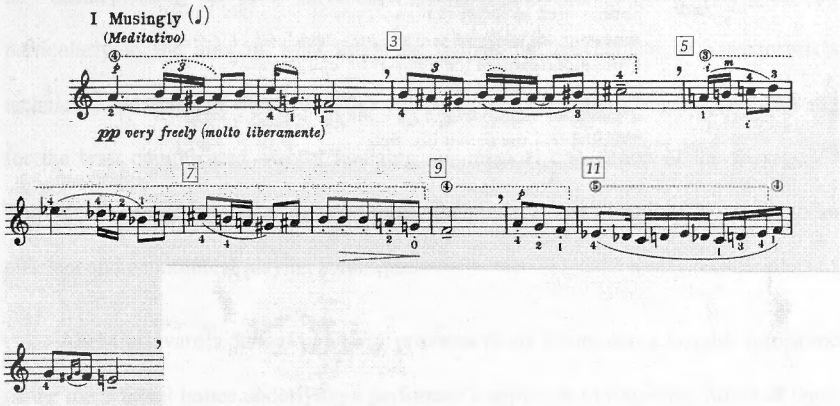


Fingering for timbral contrast is useful as a structural device not only for instances of small-scale motivic repetition, but also in the delineation of larger-scale phrases. Ex. 1.19 illustrates this using the opening theme from Benjamin Britten's *Nocturnal*. This theme may be broken into three distinct large-scale phrases of unequal length: mm. 1-4; mm. 5-9; and mm. 10-12. The separation of these phrases is suggested largely by the

sequential composition featured in the middle phrase group, consisting of the repeated rhythmic motif 𝅘𝅥𝅯𝅘𝅥𝅯 𝅘𝅥𝅯𝅘𝅥𝅯 ♩. The first phrase group is then distinguished by its contradirectional melodic structure (descending in the first two bars, ascending in the last two bars). The shortest phrase group, consisting of only three measures, concludes the overall opening statement with a distinct rhythmic motif featuring a sequence of eight repeated 𝅘𝅥𝅯s, concluding with a cadence to E minor (identified in the closing **g-f♯-e** 𝅘𝅥𝅯𝅘𝅥𝅯 ♩ motif at m. 12). Bream's fingering has the effect of providing an additional level of timbral contrast to distinguish these three individual phrase groups. Timbral symmetry is effected by the use of the metal-wound ④ and ⑤ strings for the outer phrases and the nylon ③ string for the interior phrase. The use of the brighter nylon string for the inner phrase segment achieves an effect comparable to the orchestral scoring technique of splitting a long melodic line between different instruments.[106] This technique sees the inner phrase segment emerge as if being played on a instrument favouring a higher pitch register and brighter timbral quality, despite the fact that the vertical texture-space occupied by the inner phrase is identical to the opening phrase (it ascends only one tone higher than the opening phrase). Audio Samples 19 and 20 compare Bream's fingering with a version that has the interior phrase realised on the ④ string. The contrast is notable.

[106] An excellent example of this may be seen in Maurice Ravel, *Piano Concerto in G* (Paris: Durand, 1932), 50. In this example, the flute, oboe and clarinet share the orchestra's opening melodic statement of the second movement. The registral space is mostly common between the three instruments' phrases while their timbral differences create structural distinctions.

Ex. 1.19 Benjamin Britten, *Nocturnal, after John Dowland, op. 70*, ed. Julian Bream (London: Faber Music, 1964), mm. 1-12. ♫ AUDIO SAMPLES: 19, 20.



Fingering on the guitar shares a unique relationship with sonority and timbre that presents many possibilities for performance interpretation and composition. A deepened understanding of the application of this facility can have significant implications for the structural delineation of small- and large-scale phrases, as well as the colouration of monolinear textures. A more thorough investigation of this feature of fingering is undertaken in the analyses of works in Chapters 2 and 3.

1.2.3 Mechanism and Technique

The present section is concerned with an aspect of guitar fingering that is perhaps more readily appreciable by guitarists than by non-guitarists. Without doubt, many decisions a performer makes concerning fingering will be based to a certain extent on what might loosely be termed an idiomatic approach, or a general feeling of physical economy or ease of execution. Fernando Sor was perhaps one of the earliest guitarists to identify in writing a very basic tenet of fingering and physical economy: '[i]n a passage which should be executed rapidly, it is very useful to take advantage of a

position to produce the greatest numbers [*sic*] of notes included in it.'[107] Throughout the 20th century, many advances have been made in the area of guitar technique, and particularly in the area of what might be termed the mechanism of a performer's technical approach. For Fernandez, this embodies the notion that 'fingering is…looking for the least complicated way of realizing our musical conception of the passage.'[108] The pursuit of finding fingerings that minimise physical complications is central to an efficient and economical playing technique.

Abel Carlevaro's *School of Guitar* provides many illuminating insights into some of the mechanical issues underlying a performer's approach to fingering. Some of these include the idea that 'the fingering selected for any scale should take into account the notion of *periodicity: the translating movements should be spaced at regular intervals with respect to the amount of time the hand remains at each position.*'[109] In other words longitudinal displacements, or complete changes of left-hand position, should be regularly spaced. This, Carlevaro explains, is in order to ensure a more efficient participation of the left arm in assisting with position changes.[110] Another important issue raised by Carlevaro is the concept of distention and contraction of the left-hand fingers from their natural orientation of one finger per fret. Carlevaro warns that '[i]n general, distentions and contractions tend to generate unstable situations when carried out exclusively by the fingers.'[111] Carlevaro again discusses the importance of the left arm to be used as a 'supporting point' in ensuring equilibrium of the left hand when moving away from its natural orientation of one finger per fret.

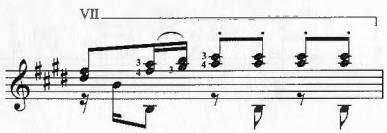
[107] Sor, *Method for the Spanish Guitar*, 31.
[108] Fernández, *Technique, Mechanism, Learning: An Investigation into Becoming a Guitarist*, 11.
[109] Carlevaro, *School of Guitar*, 90.
[110] Ibid. 89.
[111] Ibid. 122.

Both Fernandez's and Carlevaro's work in this area is useful for any performer who wishes to advance their technique. Without wanting to cover territory already pioneered by these writers, the present study proposes its own suggestions to govern fingerings based on physical mechanism. It is suggested here that there are instances where the mechanism underlying a given passage and its associated fingering promotes what Carlevaro would term an 'unstable equilibrium' of the hand, and where in such cases a revision of the musical material for the purposes of simplifying this mechanism may be considered.

Two examples (among many) from the guitar works of Joaquin Rodrigo (1901-1999) will be used to demonstrate this point. Ex. 1.20 shows a measure from the *Fandango*, the first of Rodrigo's *Tres piezas españolas* for solo guitar. Fingered with a barré on the 7th fret, the distention of fingers 3 and 4 required to realise the ascending thirds is strenuous and not conducive to the legato implied by the slur at 2 ♪. That this movement is particularly awkward is most evident when the passage is performed at Rodrigo's given tempo of ♩ = 84. An alternative[112] is to omit the lower **f♯'-g♯'** of the rising thirds to free the 3rd finger in order that it might better prepare for the realisation of **c♯'** at 2 ♩. This fingering is much more conducive to a fluent legato expression of the melodic line. It is accepted that those guitarists and composers inclined towards a purist 'black-letter' reading of a notated score may find objection to this suggestion of omitting notes. This is, of course, a decision involving a degree of subjectivity to which there is no one right resolution. It is suggested here, however, that a specialist listener of music will not hear the difference when played in context and at tempo. More importantly, the composer's intention may often be better served by such an omission, especially where rhythmic fluency and musical expression are priorities.

[112] Provided by guitarist Timothy Kain in a private instrumental lesson with this author.

Ex. 1.20 "Fandango" in Joaquin Rodrigo, *Tres piezas españolas* (Mainz: B. Schott Söhne, 1963), m. 8. Arabic numerals (not Roman) are my own. ♫ AUDIO SAMPLE: 21.

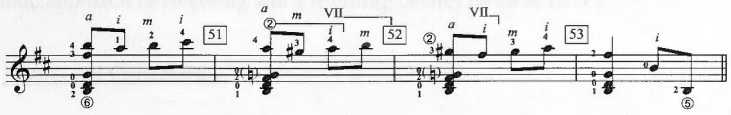


Ex. 1.21 "Fandango" in Joaquin Rodrigo, *Tres piezas españolas* (Mainz: B. Schott Söhne, 1963), m. 8. Timothy Kain's revision. ♫ AUDIO SAMPLE: 22.

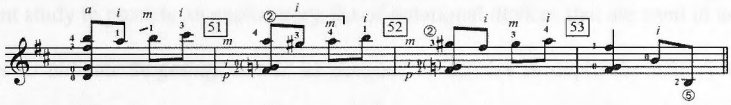
A further example comes from the third movement of Rodrigo's *Concierto de Aranjuez*. Performed at the cracking pace of ♩ = 164, the comfortable execution of the melodic line in Ex. 1.22 is considerably restricted when trying to realise the chords that commence each bar. The pivot fingers 2/1 on **B** at the ⑥ string and 2 on **f♯'** at the ⑤ do little here to promote stability in the hand. Rather, they pose a hindrance to the fluent expression of the melodic line across strings ① and ②. This is especially owing to the fact that in the printed edition, the 4th finger is required to jump from **c♯''** at the 9th fret to **a'** on the ② string over mm. 50-1, and that a barré at the 7th fret is needed to realise the melodic **f♯'** at m. 52 (the barré which, in turn, inhibits the continued resonance of the chord). An extremely comfortable alternative that does not suffer from the loss of Rodrigo's characteristic dissonance (here occurring between the **g** and **f♯**) is given in Ex. 1.23.[113] In this example, only one pivot finger is required, leaving the first finger free to assist in the fluent and well-connected execution of the melodic line.

[113] This revision is taken from John Williams, The Philadelphia Orchestra, Eugene Ormandy, *Rodrigo: Concierto de Aranjuez / Castelnuovo-Tedesco Guitar Concerto No. 1* (St. Michael vinyl LP record 2094/2003, 1978).

Ex. 1.22 Joaquin Rodrigo, *Concierto de Aranjuez* (Madrid: Distributed by B. Schott Söhne, Mainz, London, New York, Tokyo, 1959), mvt. III, mm. 50-53. ♫ AUDIO SAMPLE: 23.



Ex. 1.23 Joaquin Rodrigo, *Concierto de Aranjuez* (Madrid: Distributed by B. Schott Söhne, Mainz, London, New York, Tokyo, 1959), mvt. III, mm. 50-53. John Williams' revision. ♫ AUDIO SAMPLE: 24.



The main point of these examples is that, under certain circumstances, considerations for tempo and the desired (and intended) musical expression may give cause to revise the notated musical material. Here, a fluid relationship may exist between fingering and considerations of mechanism and technique, preferring the pursuit of musical expression over strict adherence to the notated score. Indeed, it is recognised here that this fluid relationship does exist among guitarist-composers and arrangers of particularly high quality. This relationship is especially evident in the process of arranging or editing music written by a non-guitarist composer, where revision of compositional material in order to take into account issues of mechanism and technique may in most cases provide the opportunity for the player to better serve the composers' musical intentions, rather than slavishly adhering to the original score, which may in no way allow for expressive realisation at the guitar. Countless more examples from across the entire breadth of guitar repertoire could be provided to illustrate the present point. However, it is hoped that the above discussion will at least inspire in the reader an awareness of the sometimes flexible approach required in selecting guitar fingerings. On occasion, it is not the fingering that is the problem, but

the musical material itself that needs solving (or revising) in order to facilitate a more idiomatic approach to fingering and a resulting clearer musical effect.

1.2.4 Notational Conventions

Present-day notated scores of guitar music have over the last century become largely standardised in their approach to indicating fingering and other relevant issues such as for example, voice separation and articulation. It is not the intention of the present study to provide an explanatory list of notational devices that are used in notated scores to indicate fingering, nor is its purpose to discuss in depth the history of the development of notational practices in guitar music. Rather, the present discussion aims to highlight an important link between the practice of notating music and the *implied* guitar fingering that emerges from the notation. For performers and especially composers, an appreciation of this relationship will provide for clearer communication of musical intention through written means, especially with respect to the issues of phrasing and sonority discussed above.

Concerning notational conventions, the central issue governing fingering is the practice of notating separate voices on one staff. As discussed above, especially with regards to interlinear independence, the clear delineation of separate voices on the staff necessitates an appropriate fingering in order to render each voice independent. This principle may be described as proscriptive, because it limits the performer's choice of fingerings to only those that allow for the true realisation of note durations as prescribed in the score. When a score is not proscriptive as to interlinear independence, the guitarist will commonly defer to a well-established fingering convention; that of

holding-down as many notes as possible in one position with the fingers of the left hand, especially where broken chords are perceived (but not necessarily notated as such).[114]

This convention of holding-down notes, usually beyond their written values, is no doubt a product of the guitar's distant past. Prior to the proliferation of guitar scores in the 19th century, the guitar's primary role (indeed, the role of all plucked string instruments) was to accompany singers and other instrumentalists.[115] For this purpose, tablature was a sufficient form of notation for the communication of pitch content, but was significantly limited in its indication of note durations and independent lines.[116] These were, after all, common practices and therefore left entirely to the discretion of the performer, who was expected to know when to hold notes and when to stop their resonance.[117] Even after the introduction of staff notation, it took several decades before notational practices of guitar music were sophisticated enough to give clear instructions as to musical textures and fingering:

> ...for several decades after staff notation was introduced, guitarists made little or no attempt to distinguish between different voices on a single staff or to indicate precise duration when notes of differing lengths were struck simultaneously. The player's grasp of harmony was expected to be sufficient to inform him or her when a bass note should be left to resonate and when it should be stopped.[118]

The relatively recent work of Thomas Heck has contributed significantly to our present understanding of notational practices for guitar music during the late-18th – early-19th centuries. Heck posits the notion of the hierarchical "primitive", "intermediate"

---

[114] See for example, Aguado, *New Guitar Method*, § 114; Pujol, *Guitar School*, § 219.
[115] Tyler, James and Sparks, Paul (2002), *The Guitar and its Music: From the Renaissance to the Classical Era* (Oxford Early Music Series; Oxford: Oxford University Press), 193-4.
[116] Ibid. 200.
[117] Ibid.
[118] James Tyler and Paul Sparks, *The Guitar and Its Music: From the Renaissance to the Classical Era* (Oxford Early Music Series; Oxford: Oxford University Press, 2002), 201.

and "advanced" stages of guitar notation.[119] At the "primitive" stage (ca. 1750-1800),[120] the notation merely 'prescribed or directed the placing of the fingers,'[121] without any real attempt at graphically distinguishing the constituent textural components. The "intermediate" stage (ca. 1800-1850) provided a more accurate graphic description of the texture, usually by 'turning the stems of the melody or upper part upwards and the stems of the bass or accompanying parts downwards.'[122] The "advanced" stage did not become common until the 1850s-60s, and exhibited a greater level of descriptive accuracy, where more than two independent voices could be notated separately on one staff.[123]

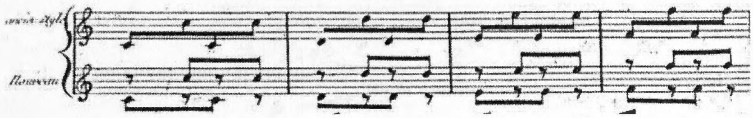
In the 20th century, what Heck terms the "advanced" stage of notation has become the standard format for composers who wish to convey an accurate expression of multilinear textures on the guitar. For the performer, important factors in the decision-making process concerning fingering can arise from the diligent observation of "advanced" guitar notation.

Citing first an example from the earliest days of guitar staff notation, Exs. 1.24 and 1.25 show the transition from "simple" notation to what Heck describes as "intermediate". The example, taken from the *Nouvelle Methode pour la Lyre ou Guitare a six cordes* by Jean-Baptiste Phillis adopts an "intermediate" system of voice separation in staff notation: 'I have added some easy Preludes...with a new way of separating the accompanying bass notes that may appear difficult at first glance; but the difficulties will be explained and perhaps you will prefer this new method to those

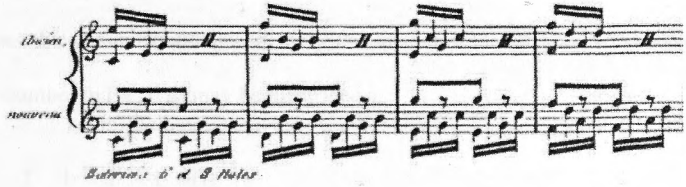
[119] Thomas F. Heck, *Mauro Giuliani: Virtuoso Guitarist and Composer* (Columbus: Editions Orphée, 1995), 143.
[120] Ibid. Heck does observe that '[b]etween about 1750 and 1800 effort were made in several countries to devise a more accurate visual representation...of the texture of certain pieces of guitar music...More or less "descriptive" guitar notation like this...could range from "intermediate" to "advanced" in terms of its accuracy in depicting the durations of different parts of the music...' This observation notwithstanding, it is likely that more descriptive approaches to the notation of guitar music did not become commonplace until after the turn of the 19th century.
[121] Ibid.
[122] Ibid.
[123] Ibid. 147.

published before now.'[124] Phillis describes the first staff of Exs. 1.24 and 1.25 as being notated in '*ancien style*' (ancient style), and the second staff as '*nouveau*' (new style). The inclusion of notated silences (rests) gives rise to the issue of articulation for left- and right-hand fingering. For the performer, the adoption of a fingering that allows for the realisation of these notated silences will permit the upper melodic line to assert greater independence from the accompaniment. This might include for example, stopping the strings with fingers of the right hand, and/or lifting the respective left-hand fingers after a ♪ duration.

Ex. 1.24 Jean-Baptiste Phillis, *Nouvelle Methode pour la Lyre ou Guitare a six cordes* (Paris: I. Pleyel, 1799), 24 [excerpt].



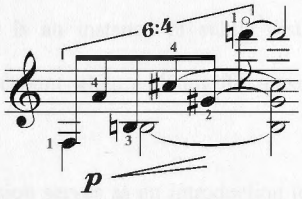
Ex. 1.25 Jean-Baptiste Phillis, *Nouvelle Methode*, 25 [excerpt].



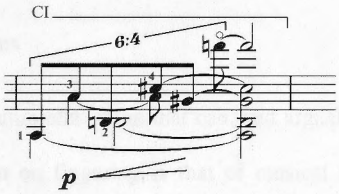
A more recent example, taken from Toru Takemitsu's *In the Woods*, demonstrates implications for fingering arising from the notation in instances of carefully controlled interlinear independence. Ex. 1.26 shows the rapid accumulation of up to four independent voices over the durational span of 2 ♩ in a bar. While no fingering is notated in the score (the fingering in red is mine), there are multiple options available to the performer, although each renders the texture differently both qualitatively and quantitatively.

[124] Jean-Baptiste Phillis, *Nouvelle Methode Pour La Lyre Ou Guitare a Six Cordes* (Paris: I. Pleyel, 1799), art. 29 [my own translation].

Ex. 1.26 "Muir Woods" in Toru Takemitsu, *In the Woods* (Tokyo: Schott Japan, 1996), m. 10. ♫ AUDIO SAMPLE: 25.



Ex. 1.27 "Muir Woods" in Toru Takemitsu, *In the Woods* (Tokyo: Schott Japan, 1996), m. 10. ♫ AUDIO SAMPLE: 26.



The examples quoted above present two possible fingerings, each of which represents the notated overlapping sonorities with subtle distinction. Analysis of the density-number in Ex. 1.26 may be illustrated as:

1	1	1	1	1	1	(1)
	(1)		(1)	(1)	(1)	(1)
				(1)	(1)	(1)
					(1)	(1)

Here, the gradual accumulation of overlapping sonorities is represented by components of restricted independence, whose continued resonance forms the 4-note chord at 2 ♩. In the Ex. 1.27, a barré on the first fret conveniently facilitates the execution of **F**, $\mathbf{g}_{\sharp}$ and **f''** with the left-hand 1st finger. The issue with this fingering, however, is that it readily provides for the continued resonance of more components than are specified in the score.

Unless careful string stopping is practiced by the right hand, the passage rendered in the latter example above does not strictly accord with the durational intentions indicated in the score. Admittedly, this is an instance of subtle distinction, but one that may nevertheless be taken into account when realising the music of particularly discerning composers.

This very brief discussion serves as an introduction to an issue that underlies all guitar notation; that of the fingering not necessarily notated but implied by the careful distinction of independent voices in multilinear textures.

Summary and Conclusions

An overarching or 'umbrella' issue that can, and arguably should, form much of the basis for any decision on fingering is that of musical intention and expression. Indeed, it might be suggested that all of the issues discussed above may be derived from the pre-conceived musical expression in the mind of the performer and/or composer. Seen in this light, fingering is one mechanism, albeit a highly influential one, that facilitates the realisation of an intended musical expression, and as such should be regarded as more than a technical device solely determined by the player for the purposes of efficiency alone. Whether it be to render a phrase with a certain rhythmic impetus or articulative character, to effect timbral contrast, to simplify muscular mechanical movements in the spirit of physical freedom, or to realise a composer's notated textures with greater rhythmic accuracy, the driving force behind most fingering decisions is that of giving effect to a particular musical intention or expression.

Above all, the considerations expounded above are intended to prove that fingering is in essence *procedural*; it is an activity, positively undertaken by a performer and/or guitarist-composer and not just a series of numbers on a page. By virtue of its

procedural nature, fingering in guitar performance is as much a part of the compositional and interpretive process as a composer deciding upon the pitch and rhythmic content of a melody, or a performer selecting phrase groupings. Changes in the fingering of guitar music affect the nature of a work, with respect to both its qualitative and quantitative attributes, precisely because fingering affects such determinative characteristics as phrasing, articulation, formal structure and expression. How it does this will be more fully explored in the case studies below.

In positing that guitar fingering is a procedural activity, undertaken by performers and guitarist-composers, that affects the qualitative and quantitative attributes of a guitar work in a significant and determinative way, this study re-asserts the primacy of guitar fingering as a critical part of the compositional and interpretive process. In systematically un-packing the many and varied issues arising from this decision-making process, new approaches to discussing and selecting fingerings are made available, and a web of context is generated that makes clearer the interconnectedness between the main issues arising from guitar fingering. In practice, the process of deciding on a fingering for a given passage may take into account all of the issues described above, and all at once. Conversely, it is just as realistic to suggest that a performer may for example, choose a particular fingering based on consideration of one issue alone. The chapters that follow demonstrate the fluidity of this decision-making process. Through deeper analysis of fewer works, the usefulness of the above approach will be made clear as the issues underlying the decision-making process concerning fingering are applied in the interpretive performance and writing of guitar music.

Chapter 2: Applications to Performance Interpretation

Introduction

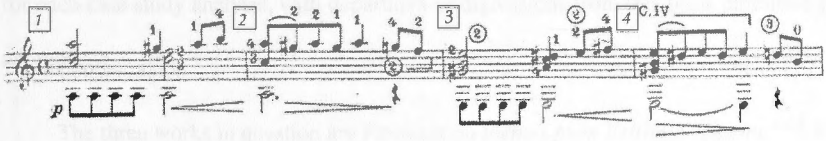
In the Segovia masterclass recounted in the Introduction to this thesis, one could argue that the primary point of difference between the maestro and his student was a matter of interpretation. After all, Chapdelaine did initially think that his fingerings were good, a perspective upon which he later reflected in the interview following the class. During this masterclass, Segovia used guitar fingering to challenge the young guitarist's musical conception and interpretation of the work. The maestro drew particularly on fingering devices such as *portamento* to make better use of the guitar's capacity for melodic expressivity, something that he evidently thought Chapdelaine had missed in his interpretation. Viewed in this light, one might consider that Segovia was not so much trying to preach a non-negotiable attitude to his edition, but rather emphasise the deep-seated effect of guitar fingering on musical interpretation. For Segovia, fingering was seen to define the very attitude and character of the work being performed.

That fingering is so intrinsically bound-up in the interpretive process of the performer has been recognised by several notable guitarists over the last few decades including for example, Eduardo Fernandez and his previously cited notion that 'Fingering is already interpreting.'[125] Angelo Gilardino, the Italian guitarist-composer and editor recognised for his editions of many unpublished works from the Segovia archive, has also written on the subject of fingering as an act of interpretation. For Gilardino, 'fingering is, in my opinion, a fundamental act of musical interpretation.'[126]

[125] Fernández, *Technique, Mechanism, Learning: An Investigation into Becoming a Guitarist*, 11.
[126] Angelo Gilardino, 'Il Problema Della Diteggiatura Nelle Musiche Per Chitarra: Parte Prima', *Il Fronimo*, Gennaio (1975), 5-12, 6 [my own translation].

In his 1975 article *The Problem of Fingering in Music for Guitar*, Gilardino supports this statement with an example of Segovia's fingering from the opening theme of Manuel Ponce's *Sonata Clásica*. Gilardino observes that '[i]n [this example], Segovia has striven to maintain as much as possible the fingering in a linear sense, thus ensuring the expression of a legato phrasing.' Indeed, Segovia's fingering for 1 ♩ of m. 2, interesting for its remarkably comfortable and smooth sliding of fingers 2 and 1 between **$g_{\sharp}$'-a'**, is even more notable for the way it seamlessly connects this ornamental motive with the melodic line from the preceding, as well as the subsequent, bars. Segovia's fingering reflects his interpretive intention to realise the opening theme as a single, uninterrupted phrase [Ex. 2.1]:

Ex. 2.1 Manuel Ponce, Sonata Clásica, ed. Andrés Segovia (Mainz: Schott Musik International, 1929), mm. 1-4. ♫ AUDIO SAMPLE: 27.



Phrasing is but one issue explored as an interpretive aspect of fingering in the present chapter. Through analysis of three contrasting works for solo guitar, the following discussion explores the approach described in Chapter 1 in considerably greater depth. In doing so, we will see how the performer can use fingerings to manipulate phrasing and sonority, as well as investigate how certain notational conventions and technical issues can determine the availability of fingering options. The aim here is to illuminate for the performer the myriad ways in which fingering can be used to add breadth to one's interpretive possibilities. It is worth remembering here that the following analyses will not attempt to provide the reader with an exhaustive list of

fingering options. Instead, this investigation will explore the *process* of fingering as it applies to the preparation of a musical interpretation for performance.

The analysis of each work will inasmuch as possible adopt the structural approach expounded in Chapter 1. Thus, textural issues of phrasing and sonority will be discussed first, followed by other issues of notational conventions and mechanism and technique. In reality, however, each work will inevitably lend itself to a more favourable discussion of one issue over another, and there will most certainly be some degree of overlap in the breaking-down of substantive musical attributes within each piece. Some structural flexibility will thus be permitted in the following analyses in order to give appropriate discursive weight to the issues that most centrally predominate in each work. Nevertheless, with a view to systematically analysing the fingering relations within each work, the structure adopted to explain the theory in Chapter 1 will still remain the basis for each case study analysis, with departures or digressions from this basis permitted as appropriate.

The three works in question are *Fantasia on themes from Bellini's "Norma"*[127] by Napoleon Coste; "Francisco Goya y Lucientes, Pintor" from Mario Castelnuovo-Tedesco's *Los Caprichos de Goya*;[128] and "Wainscot Pond" from Toru Takemitsu's collection *In the Woods*.[129] These works have been selected according to the following general criteria:

1. Collectively, these three works represent a diverse range of historical musical styles. This is important to demonstrate that the approach to fingering explored in this study is applicable in unique ways to music of different historical periods.

[127] Napoleon Coste, *Fantasie sur deux motifs de La Norma pour la Guitare, op. 16* (Paris: E. Challiot, n.d.).
[128] Mario Castelnuovo-Tedesco, *24 Caprichos de Goya*, ed. Angelo Gilardino, 4 vols. (1; Ancona: Edizioni Musicali Bèrben, 1970).
[129] Toru Takemitsu, *In The Woods* (Tokyo: Schott Japan, 1996).

Further, this study's approach to fingering is relevant irrespective of stylistic differentiation;

2. The chosen works give rise to issues of fingering that are interesting in that they are contentious, problematic or previously un-researched; and

3. The combination of the chosen works illuminates issues arising from guitar fingering in different ways. Thus, this research benefits from the *diversity* of issues arising from the combination of the chosen works.

It is this study's intention to prove that the applicability of the approach to fingering discussed below can be relevantly and usefully applied to any guitar repertoire, irrespective of compositional or performance style. Importantly, issues that arise from the discussion of the four main topics presented above will naturally be peculiar to the work in question, and will differ accordingly from piece to piece. To this end, any works from the guitar repertoire could in reality be used as a useful basis for analysis and discussion of the approach to fingering introduced in Chapter 1.[130] Perhaps the primary unifying feature of the three works selected for this chapter is the author's understanding of each work acquired through prolonged study and performance over a period of several years.

[130] Indeed, the application of this study's approach to a wider range of relevant new and historical works could well form the basis for further research in this field.

2.1 Case Study 1: *Fantasia on themes from Bellini's Norma*, Op. 16 (Napoléon Coste)

For Vincenzo Bellini (1801-1835), 'the music drama through singing must make one weep, be stricken with horror, to die.'[131] The overtly expressive sentiment discernible in this statement may be seen as a hallmark of the early-19th century Italian *bel canto* operatic vocal style. Across a range of historically contemporaneous treatises, the notions of musical character and expression consistently underpin a range of technical stylistic attributes such as for example, filigree figuration and *tempo rubato*,[132] well-shaped melodic gestures, and accentual variation.[133]

The *bel canto* sound permeated concert halls and opera houses throughout Europe in the early-19th century, although not everyone was completely infatuated with the highly-charged Italianate expression. The early French Romantics including for example, Hector Berlioz, 'had little affection for the music of Rossini and Donizetti, but the lyricism and atmosphere of Bellini was more to their liking.'[134] French guitarist Napoléon Coste's (1805-1883) affection for the music of Bellini is exhibited in his Op. 16 *Fantasia* on themes from Bellini's opera *Norma*. In this work, Coste intersperses quoted segments from the opera's arias with his own rhapsodic material, interestingly labelling the score "Bellini" and "Coste" in turn. With minimal fingering and an abundance of both Italian *bel canto* and early French Romantic material, this work

---

[131] Quoted in Donald J. Grout and Claude V. Palisca, *A History of Western Music* (6th edn.; New York: W. W. Norton & Co. Inc., 2001), 606. C.f. Friedrich Lippmann, *Vincenzo Bellini Und Die Italienische Opera Serie Seiner Zeit: Studien Über Libretto, Arienform Und Melodik* (Analecta Musicologica, 6, 1969), 33.

[132] See, for example, Adrian Walter, 'The Early Nineteenth Century Guitar: An Interpretive Context for the Contemporary Performer', (Charles Darwin University, 2008), 388.

[133] See, for example, Pierre Marie François De Sales Baillot, *The Art of the Violin*, trans. Louise Goldberg (1835; repr., Chicago: Northwestern University Press, 1991), and Manuel Patricio Rodriguez Garcia, *Garcia's New Treatise on the Art of Singing*, trans. Donald V. Paschke (London: Beale and Chappel, 1847).

[134] Richard M. Long, 'Napoléon Coste: Guitar Works Opp. 14-19', *Napoléon Coste: Guitar Works Vol. 3 [Audio Recording]* (Naxos, 1998), 3. See for example, Hector Berlioz, *The Memoirs of Hector Berlioz*, ed. and trans. David Cairns (1803-1865; rev. repr., London: Victor Gollancz Ltd., 1969), 160. Berlioz praises Bellini for his then latest opera *i Montecchi e i Capuletti* by comparing him to his fellow Italian counterparts: 'the Italians as a rule pay little attention to the words of an opera. Here was something new!'

serves as an excellent opportunity to explore a range of fingering options that the guitarist might employ in shaping an interpretation of music from the early-19th century.

2.1.1 Fingering and Phrasing: Distinguishing the Appoggiaturas

Composed in 1834 in a mixture of Italian *bel canto* and early French Romantic styles, Coste's Op. 16 *Fantasia* predictably reflects the harmonic conventions of his time. In guitar terms, the A Major tonality allows for the open ⑥, ⑤ and ④ strings to support the three primary chords – dominant (E), tonic (A), and sub-dominant (D), respectively. This basic fact, coupled with the emphasis on melody that characterises this work, arguably limits the scope of discussion relevant to the second aspect of fingering and phrasing expounded in the Chapter 1 approach: interlinear independence. Indeed, owing to striking differences in the construction of early-19th century guitars compared with modern guitars, the issue of phrasing and interlinear independence will be seen to become more relevant when considering aspects of fingering and sonority. As such, the issue "Phrasing and Interlinear Independence" will not be discussed in the present section, but will instead feature in the following section "Fingering and Sonority."

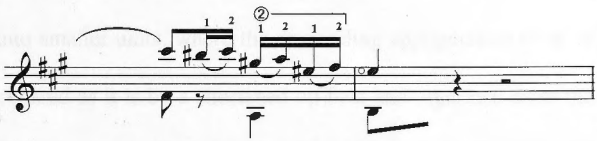
The Construction of Groups through Articulation

Certain articulative and accentuational devices become critical in selecting fingerings that best reveal the stylistic characteristics of *bel canto* phraseology. Of prime importance is perhaps the appoggiatura which, for the purposes of the present study, is a term that denotes a dissonant note that is emphasised dynamically, with an increase in duration. A typical setting for an appoggiatura would see the dissonant note followed by a resolving note, which is executed with a softer dynamic and shorter

articulation.[135] Appoggiaturas or 'leaning notes' were for 17th, 18th, and early-19th century musicians capable of great expressive potential, where 'lingering on accented notes was an essential aspect of expressive performance.'[136]

A slur mark would typically be used where a composer wanted to highlight specific instances of appoggiaturas.[137] In his Op. 16 *Fantasia*, Coste expressly indicates many instances of appoggiaturas using slur marks. Ex. 2.2 shows a simple descending sequence of ascending appoggiaturas. The fingering suggested here is a repeated sequence of 1-2, where the displacement required by shifting the first finger up from ① / VII to ② / VIII and then back to ② / VI[138] favours a non-legato articulation to separate each pair of leaning notes from one another, rendering each iteration of appoggiatura more distinct and independent. This in turn is complemented by the technique of slurring each pair of notes together, which creates internal legato and dynamic contrast (loud-soft) within each pair of notes necessary to appropriately express the effect of the appoggiaturas.

Ex. 2.2 Napoléon Coste, "Fantasia on themes from Bellini's *Norma*, Op. 16" (1834), m. 34. Notated fingerings are my own. ♫ AUDIO SAMPLE: 28.



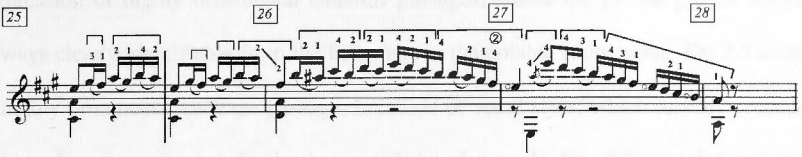
Exs. 2.3 and 2.4 below show alternative fingerings for three measures that feature diatonically ascending sequences of descending appoggiaturas. This more extended

[135] Leopold Mozart, *A Treatise on the Fundamental Principles of Violin Playing*, trans. Editha Knocker (1756; repr., London: Oxford University Press, 1951), 123.
[136] Clive Brown, *Classic and Romantic Performance Practice: 1750-1900* (Oxford: Oxford University Press, 1999), 53.
[137] Ibid. 52. See also Leopold Mozart, *A Treatise on the Fundamental Principles of Violin Playing*, 123.
[138] Roman numerals denote fret positions.

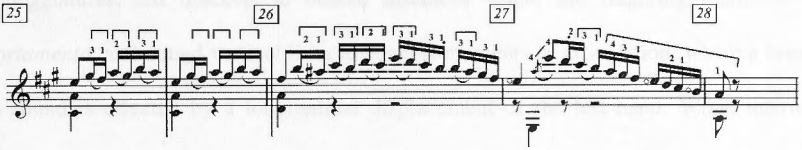
example provides considerable scope for considering the implications for articulation when fingering appoggiaturas in the context of filigree vocal lines typical of *bel canto* music. Slur marks are present as shown in the original facsimile edition, while the left-hand fingerings are my own. I have used brackets to denote the resultant phrase groups implied by the fingering (an instance where right-hand fingering can override phrase groups implied by left-hand fingering will be discussed below).

Immediately observable are the differing lengths of phrase groups discernible between the two examples. Ex. 2.3 consists of longer phrase groups while Ex. 2.4 contains shorter groups. These groups are made distinctly audible due to the longitudinal displacement of the left hand, which effects articulative distinction by shortening the length of the last note before each left-hand displacement. The reader will observe that in the former example the left hand is displaced fewer times than in the latter example. This means that more notes can be played in the former example without having to shift the hand, while in the latter example the hand is constantly shifting. In an instance such as 4 ♩ of m. 26, for example, as many as 6 consecutive pitches can be realised in one left-hand position. The same moment in Ex. 2.4 shows this group subdivided into smaller units, where the descending appoggiatura **b'-a'** is more clearly identified, prepared as it is by a shortened up-beat and separated from the line **g'-f♯'-e'** that concludes over the barline. Left-hand longitudinal displacement also forces the clear delineation of appoggiaturas elsewhere in this example. These are indicated by the brackets and are readily heard in the corresponding audio samples.

Ex. 2.3 Napoléon Coste, "Fantasia on themes from Bellini's *Norma*, Op. 16" (1834), mm. 25-28. Notated fingerings are my own. ♫ AUDIO SAMPLE: 29.



Ex. 2.4 Napoléon Coste, "Fantasia on themes from Bellini's *Norma*, Op. 16" (1834), mm. 25-28. Notated fingerings are my own. ♫ AUDIO SAMPLE: 30.

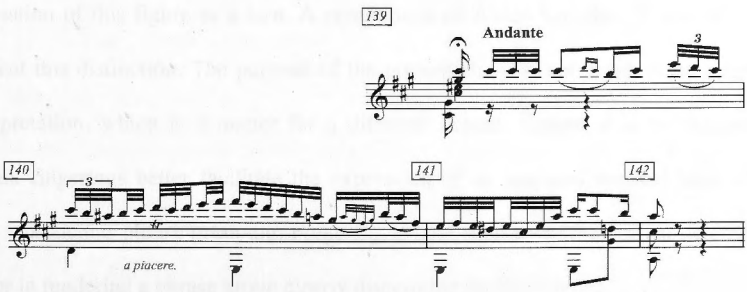


Tempo and *rubato* are two issues arising from the number of left-hand longitudinal displacements generated by the two alternative fingerings above. Insofar as the present example is concerned, a faster tempo is possible when a greater number of notes are playable in one position, whereas a slower tempo with an inbuilt imperative for *rubato* fits comfortably with more frequent left-hand position changes.

Differences worth noting include Ex. 2.3's sliding of the left-hand finger 2 from **a'** to **f♯'** over the barline at m. 26, which nicely carries the phrase group over to the next downbeat. Contrastingly, Ex. 2.4 emphasises the independence of the descending appoggiatura figure **b'-a'**, encouraging its separation from the downbeat of m. 26. Whether the player wishes to emphasise this appoggiatura and subsequent chord as separate or instead connected is perhaps a personal decision. Arguably, the fingering in Ex. 2.3 is favourable for the rhythmic impetus towards the downbeat of m. 26, effected by the logical preparation of m. 26's downbeat by the preceding upbeat. This is a rhythmic characteristic that is disturbed by the fingering in Ex. 2.4.

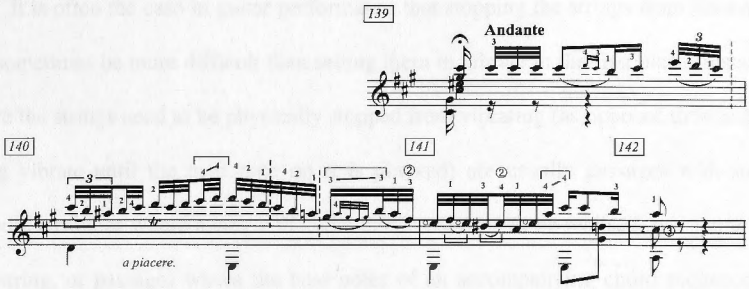
A final example shows how a carefully considered fingering is vital in the clear expression of highly ornamental *cadenza* passages, where the phrase groups are not always clearly identifiable from the beamings in the notated score alone. Ex. 2.5 shows a highly ornamental *cadenza* passage, imitative of vocal style, which directly precedes the exuberant, orchestral finale that concludes the work. Ex. 2.6 contains my own left-hand fingering for the same passage, along with black brackets to indicate appoggiaturas, red brackets to denote instances where the fingering facilitates a *portamento*, and dotted vertical lines to suggest moments of articulation, where a break in sound is effected by a longitudinal displacement of the left hand. While internal phrase groups can, in a passage as complex as this, be rendered audible at a conceptual level that transcends the fingering, the suggestions here do facilitate the clearer expression of certain distinct moments in the delineation of phrases, which can support the player's mental conception of note groupings. An example might be 2 ♩ of m. 140, where although the sextuplet could conceptually be grouped in any number of ways,[139] the separation of **d''** from **c♯''** and **a'** from **g♯'** nevertheless supports the expression of two distinct groups of three notes.

Ex. 2.5 Napoléon Coste, "Fantasia on themes from Bellini's *Norma*, Op. 16" (1834), mm. 139-142. Notated fingerings are my own.



[139] Consider the following:
TUM | tee-tee-TUM | tee-tee-TUM; or
TUM-tee | ta-TUM-tee | ta-TUM; or
TUM-tee-tee | TUM-tee-tee | TUM.

Ex. 2.6 Napoléon Coste, "Fantasia on themes from Bellini's *Norma*, Op. 16" (1834), mm. 139-142. Notated fingerings are my own. Annotated. ♫ AUDIO SAMPLE: 31. Compare with ♫ AUDIO SAMPLE: 32 (Pavel Steidl).



The above example does give rise to one issue of potentially great contention: that of the initial selection of phrase groups. When comparing the above suggested groupings to a well-known commercial recording by Pavel Steidl of the same work, differences in phrase groupings are readily appreciable. For instance, in m. 141 Steidl realises the initial 5 𝅘𝅥𝅯 as an ornamental turn; an entirely appropriate interpretation in this context and one that suggests an improvisatory feel owing to an increase in rhythmic fluency. In Ex. 2.6, I instead emphasise the dissonant components of the melodic line in an attempt to heighten the overall structural recession towards cadence. To achieve this, two pairs of slurs are realised on the ① and ② strings, respectively, whereas a fingering on one string only (with a slur covering all 5 notes) would be better adapted to the realisation of this figure as a turn. A comparison of Audio Samples 31 and 32 makes evident this distinction. The purpose of the present study is not to advocate a specific interpretation, which is a matter for a different debate. Rather, it is to suggest that certain fingerings better facilitate the expression of an intended musical idea, in this case a particular phrase grouping. Fingering is here seen to be the critical determining factor in rendering a phrase group clearly discernible for the listener.

2.1.2 Fingering and Sonority: *Interlinear Independence*

It is often the case in guitar performance that stopping the strings from resonating can sometimes be more difficult than setting them to vibrate in the first place! Instances where the strings need to be physically stopped from vibrating (as opposed to letting the string vibrate until the next note on it is plucked) are usually passages with strong melodic attributes where a single melodic line is required to be realised over more than one string, or passages where the bass notes of an accompanying chord sequence are played across open strings. Coste's Op. 16 *Fantasia* is full of instances where a failure to control the continued resonances across adjacent strings can result in obfuscation of melodic material and an unwanted weakening of independence between the parts.

Fingering clearly plays an important role in controlling the duration of notes on the guitar. Some of the fingering techniques available to the guitarist to control note duration in melodic passages in multilinear textures include:

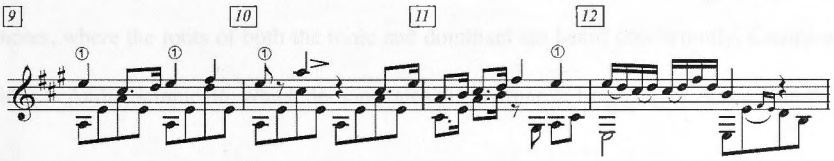
- Selecting either open or stopped strings;
- Lifting a left-hand finger from a stopped string so that it ceases vibrating; and
- Resting a right-hand finger on a string to stop it from vibrating.

While this is not a new or original concept, it is submitted here that identifying the role that fingering plays in controlling the guitar's sonorities in the assertion of interlinear independence is useful as an observational and descriptive tool when preparing a musical interpretation for performance.

The opening theme *Moderato* contains a formidable trap for the unsuspecting performer: the repeated iteration of the pitch **e'**. Easily executed on the open ① string, a failure to actively discontinue the resonance of this string can result in an unwanted

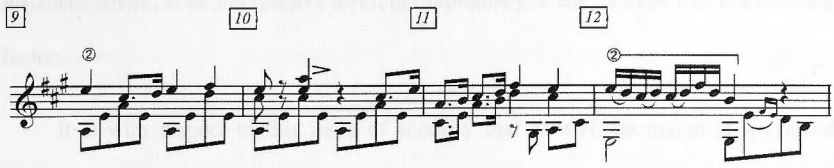
accumulation in density-number, where the melodic line notated with upward stems ceases to be monolinear, and instead becomes multilinear (in m. 9, **e'** rings against $\mathbf{c}_{\sharp}$' and **d** (a nice clash here), while in m. 11 **e'** (pick-up from m. 10) rings against **a**, **b**, $\mathbf{c}_{\sharp}$' and **d'**. That the tonal characteristics of ① differ markedly with those of ② only adds to the timbral disparity within the single melodic line. The effect is almost that of two instruments - say, an oboe and a flute, where the oboe repeatedly plays an **e'** on the down-beats and the flute fills-in the remaining melodic notes. Audio Sample 33 is indicative of this effect, where the performer doesn't stop the continued resonance of the **e'** ① string, even in m. 12, where the slur mark suggests a legato (not legatissimo!) connection between the two notes [Ex. 2.7]:

Ex. 2.7 Napoléon Coste, "Fantasia on themes from Bellini's *Norma*, Op. 16" (1834), mm. 9-12. Notated fingerings are my own. ♫ AUDIO SAMPLE: 33, Gabor Podhorszky.



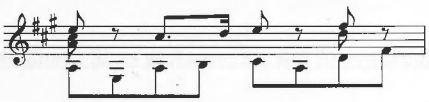
A couple of simple fingering solutions exist here. The first is to realise the initial **e'** in m. 9 on ②, which creates a nice timbral unity with the next couple of notes. The second is to stop the resonance of ① with a right-hand finger (possibly *a*). The former option is heard in Audio Sample 34 [Ex. 2.8]. Certainly, the effect of legato in m. 12 is made all the more effective with the timbral unity effected by slurring the initial **e'** from the ②, not the ①, string.

Ex. 2.8 Napoléon Coste, "Fantasia on themes from Bellini's *Norma*, Op. 16" (1834), mm. 9-12. Notated fingerings are my own. ♫ AUDIO SAMPLE: 34, Bradley Kunda.



A similar issue exists with asserting the independence of a melodically-charged bass line. In m. 13 [Ex. 2.9] a failure to stop the overlapping resonances of ⑥ against ⑤ not only diminishes the independence of the lower line but also creates harmonic confusion (the root notes for both the tonic and dominant are heard simultaneously). The solution here may be to realise **A** at 2 ♩ on ⑥, thereby forcing the discontinuation of **E**, or to stop the resonance of ⑥ with the right-hand thumb at the same instant as plucking **A** on ⑤. Audio Sample 35 demonstrates the auditory effect of overlapped bass notes, where the roots of both the tonic and dominant are heard concurrently. Compare it with Audio Sample 36, which demonstrates the alternative fingering of **A** at 2 ♩ on ⑥.

Ex. 2.9 Napoléon Coste, "Fantasia on themes from Bellini's *Norma*, Op. 16" (1834), m. 13. ♫ AUDIO SAMPLE: 35, Stefano Cardi. ♫ AUDIO SAMPLE: 36, Bradley Kunda.



For the experienced and discerning player, this issue may appear obvious and banal. Nevertheless, a re-evaluation of the manner in which we discuss the issue of fingering as an articulative device is warranted by the divergence of aesthetic priorities evidenced in the above examples. Here, it is argued that the process of fingering, including its related technical implications, is critical in asserting interlinear independence. In highly melodic music, the guitar's capacity for rich overlapping sonorities can often present problems in the clear delineation of melodic material. Thus,

fingering is critical in controlling the guitar's sonorous capabilities, especially in instances where, at an interpretive level, the supremacy of the melodic line is a defining factor.

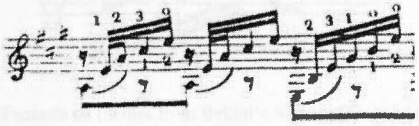
It is with respect to this issue of sonority that a brief discussion is warranted concerning selected distinguishing attributes between early-19th century (period) and modern guitars. The enhanced capacity of the modern instrument for greater sustain and resonance than it's early-19th century forebear only augments the player's imperative to more fastidiously control the guitar's tendency to obfuscate independent lines across adjacent strings. This does not suggest that the issue is not relevant when performing on a period instrument, although the sonorous characteristics of early-19th century guitars do tend to make it easier to assert interlinear independence. The above Audio Samples, recorded using an original 1825 René Lacote (Paris) guitar, attest to this instrument's capacity to clearly express the independence of melodic and bass lines, respectively, owing largely to its particular sonorous characteristics, which include a marked timbral difference between the registers and a shorter sustain than most quality modern concert guitars.

2.1.3 Notational Conventions: Slurs as Arpeggios and Appoggiaturas

Coste's Op. 16 *Fantasia* provides several examples of notational conventions that are peculiar to the early-19th century, the investigation of which is illuminating for the modern guitarist who may be unfamiliar with changes in fingering trends over the past 200 years. This section will consider first the convention of using a slur over bass notes in an arpeggio, and second an alternate manner of indicating appoggiaturas. The implications that arise for fingering are the primary focus for this investigation.

The early-19th century convention of using a slur over bass notes in an arpeggio has a practical implication for fingering that has not made it into modern guitar performance practice. The convention in the early-19th century was that the right-hand thumb would be drawn across the adjacent bass strings in order to render the slurred arpeggio notes legatissimo, or overlapping in sonority. The earliest published instruction of this technique comes from a 1799 method by Jean-Baptiste Phillis: 'each time we find a line connecting two and three notes, we must use the thumb…one must pay great attention to not lift [fingers from] the strings that have been plucked; it will produce…an undesirable effect'[140] [Ex. 2.10]:

Ex. 2.10 Jean-Baptiste Phillis, *Nouvelle Methode*, 15.



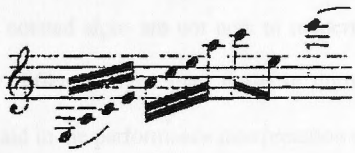
Phillis's use of what we now call a 'slur' mark to instead indicate a fingering technique has the resultant auditory effect of prolonging the notes plucked on the bass strings, so that their continued resonances combine and thus render the harmonic quality of the arpeggio more discernible for the listener. This convention is confirmed by a number of other contemporaneous methods including those by Doisy,[141] Francesco Molino[142] and Ferdinando Carulli.[143] It is possible that this kind of use of the thumb was necessary due to the early-19th century practice of avoiding the use of the right-hand *a* (ring) finger.[144]

---

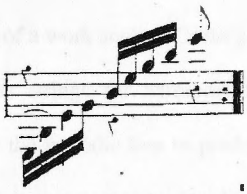
[140] Phillis, *Nouvelle Methode Pour La Lyre Ou Guitare a Six Cordes*. Art. 24 [my own translation].
[141] Doisy, *Principes Généraux De La Guitare À Cinq Et À Six Cordes Et De La Lyre* (1804 edn.; Paris: C. Doisy, 1801), 13.
[142] Francesco Molino, *Nouvelle Méthode Pour La Guitare* (Leipzig: Bey Breitkopf & Härtel, 1813), 19.
[143] Ferdinando Carulli, *Méthode Complette, Op. 27* (Paris: N.-R. Carli, 1810), 13.
[144] See for example, Sor, *Method for the Spanish Guitar*, 33: '…the reader may easily infer that, if I rarely use the third finger of the right hand for harmony, I forbid it entirely for melody.'

Although composed some two decades after the publication of Molino's method, Coste's Op. 16 *Fantasia* contains several instances where this very early-19th century fingering technique is more likely to still apply. Ex. 2.11 shows the first three notes of an A minor arpeggio connected by a slur. Here, the approach expounded by Phillis and others above is considerably more effective than the alternative approach of slurring the three notes on the ⑥ string, which would be the literal (if impracticable) modern reading of this notation. The same technique is indicated in m. 36, shown in Ex. 2.12.

Ex. 2.11 Napoléon Coste, "Fantasia on themes from Bellini's *Norma*, Op. 16" (1834), m. 5. ♫ AUDIO SAMPLE: 37.

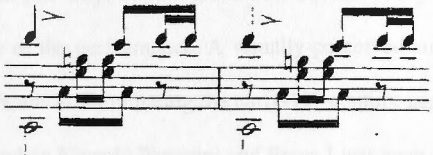


Ex. 2.12 Napoléon Coste, "Fantasia on themes from Bellini's *Norma*, Op. 16" (1834), m. 36. ♫ AUDIO SAMPLE: 38.



As well as suggesting arpeggios, it has already been seen that slur marks were also used to denote appoggiaturas. Slur marks were evidently not the sole means of indicating an appoggiatura in early-19th century guitar scores, however. Ex. 2.13 contains two instances where very obvious appoggiaturas are marked with an accent, or perhaps a short diminuendo hairpin, directly after the leaning note. This effect has implications for phrasing, where the ♪♪ **d''**s become an upbeat to the appoggiatura, creating in this instance a pair of very short note groups.

Ex. 2.13 Napoléon Coste, "Fantasia on themes from Bellini's *Norma*, Op. 16" (1834), mm. 48-9. ♫ AUDIO SAMPLE: 39.



The implications for fingering that arise from the above investigation are indicative as to the potential elusiveness of some notational conventions. For music composed in the early-19th century, this is especially significant given the changing trends in conventions of notation over the past 200 years. Evidently, the fingerings that are implied by the above notated signs are not new to modern guitarists. It is the fact that they are implied by different signs than those in current use that makes this investigation useful as an aid in the performance interpretation of this work.

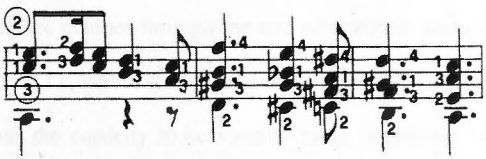
2.1.4 Mechanism and Technique: Virtuosity as a Matter of Aesthetic Judgment

In an un-fingered edition of a work such as Coste's Op. 16 *Fantasia*, which makes frequent use of the open bass strings for harmonic support and whose texture is sufficiently simple as to allow the melodic line to predominate, the performer is more likely to be spoilt for choice when it comes to deciding on fingerings than, say, in a work where the texture and harmony limit the player's options by extending the performer's resources and capabilities considerably further. The apparent freedom implicit in the Coste Op. 16 *Fantasia* gives rise to another issue that affects the player's mechanism and technique in terms of fingering: that an economical, as opposed to an un-economical fingering, may now be a matter of aesthetic preference. For instance, a very un-economical fingering can be effective in making a simple passage appear more difficult than it actually is, the successful accomplishment of which will invariably prove the performer's heroism (a distinctly 19th century Romantic trait). Conversely, a

very economical fingering can make the most complex textures appear effortless for the virtuosic performer. In this way, fingering can now become a key player in influencing the style and delivery of the performance. A visually-perceived amount of effort on the player's part is significant in illuminating the early-19th century aesthetic of the virtuoso performer. At a time when Niccoló Paganini and Franz Liszt were astonishing European audiences with their almost superhuman virtuosity,[145] a consideration of the interaction between technique and fingering is appropriate as an aspect of the virtuosic aesthetic that was very much in vogue when Coste was writing his Op. 16 *Fantasia*.

A fingering device favoured by guitarists for its technical simplification of a typically difficult and complex-sounding passage is the use of a static diminished seventh chord shape displaced longitudinally to effect different inversions of the same chord. This technique, a favourite device of Villa-Lobos (see, for example, his famous *Prelude no. 1*) first appeared in print in 1817 in the *Grand Sonata* of Luigi Moretti [Ex. 2.15]:

Ex. 2.14 Luigi Moretti, *Grand Sonata*, ed. Carlo Barone (Padova: G. Zanibon, 1989), 2. ♫ AUDIO SAMPLE: 40.



In this example, the descending sequence of diminished chords strongly supports the melodic content of the passage. It is a striking example of Moretti's innovative approach to fingering that was still at the service of the music and its emphasis on lyricism. Using the same technique, Coste achieves a far less melodic result. Indeed, his use of the repeated diminished chord in the *Allegro assai* introduction appears to be

[145] See for example, Richard Taruskin, *The Oxford History of Western Music*, 6 vols. (3; Oxford: Oxford University Press, 2005), 254.

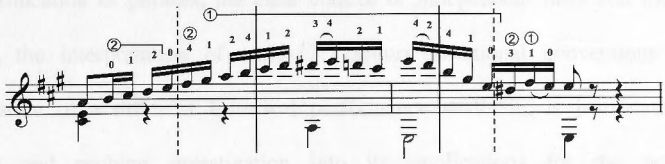
entirely for show - a virtuosic display of the player's technique and bravura. The little melodic content that might be inferred from Ex. 2.16 is perhaps the ascending bass line, which is simply the outline of an A diminished arpeggio. In this instance, however, it is not the melodic content that is important but rather the impressiveness of the passage's execution; very simply played owing to the repeated use of one fingering pattern in both left- and right hands, this passage (to the non-guitarist) will invariably sound much harder than it looks.

Ex. 2.15 Napoléon Coste, "Fantasia on themes from Bellini's *Norma*, Op. 16" (1834), m. 4. ♫ AUDIO SAMPLE: 41.

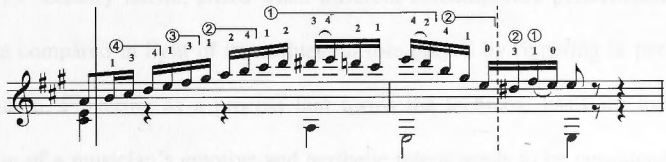
So much for an instance where an economical fingering can make a passage appear difficult. Ex. 2.16 shows almost the opposite effect; a simple A major scale executed in a complex manner through the use of a highly un-economical fingering. Compared with Ex. 2.17, which shows the same passage fingered in one position, the former example has the capacity to be visually more impressive. Vertical lines show longitudinal displacements, where the broken lines indicate a position change occurring after an open string note (effecting a more fluent transition with little or no break in sound). The unbroken lines indicate a position change where the absence of an open string invariably results in a discontinuation of sound. The frequent longitudinal displacements of Ex. 2.16 facilitate the execution of greater *rubato*, an appropriate characteristic for this particular instance of obvious lyricism (note that the

accompaniment even stops in this instance to allow for greater freedom in the melodic line). Conversely, it is very tempting in Ex. 2.17 to render this moment of vocal-like virtuosity a mere flourish of notes owing to almost every note occurring in one left-hand position.

Ex. 2.16 Napoléon Coste, "Fantasia on themes from Bellini's *Norma*, Op. 16" (1834), mm. 31-32, complex fingering. Notated fingerings are my own. ♫ AUDIO SAMPLE: 42.



Ex. 2.17 Napoléon Coste, "Fantasia on themes from Bellini's *Norma*, Op. 16" (1834), mm. 31-32, simple fingering. Notated fingerings are my own. ♫ AUDIO SAMPLE: 43.



The fingering considerations suggested above are arguably a matter of personal preference and stylistic taste. Contemporary performers like Stefano Cardi and Gabor Podhorszky, whose renditions have been cited earlier in this chapter, testify to a more modern aesthetic. In this style, fingering options like the simpler, more economical realisation of the scale in Ex. 2.17 are preferenced for their technical efficiency over more lyrical fingering options like that illustrated in Ex. 2.16. Whether the performer wishes to realise this music in light of the performance aesthetic of its time is a matter for a different debate, where fingering will nevertheless play a decisive role in determining the aesthetic and expressive outcome of the performance.

Summary

The case study of Coste's Op. 16 *Fantasia* goes some way to showing how a well-considered and historically-informed approach to performance interpretation connects guitar fingering to the expressive intention of the player with regards to the music being played. That fingering lies at the heart of ambiguities arising with respect to the delineation of phrases, the clear control of independent lines and the guitar's sonority, the interpretation of early-19th century notational conventions and the appropriation of a different historical performance aesthetic, is justification for a thorough and probing investigation into its implications for the performer's decision-making process. A real need for this sort of discussion, especially as it relates to early-19th century music, arises when different contemporary performances of this music are compared in light of the influential role played by fingering in performance interpretation. Fingering as a process that forms the technical basis for the ultimate expression of a musician's emotive and aesthetic intent needs to be considered as such and certainly as more than a mere tool for the efficient and economical realisation of notes in a score. A wide range of options are available to the contemporary performer, especially in the absence of extensive notated fingerings in many early-19th century concert scores. This discussion illuminates some of these options so that the reader can adopt a more informed and flexible approach to the selection of guitar fingerings in early-19th century music that preferences lyricism and emotional expressivity over technical security and efficiency, in order to more truly realise the performance aesthetic of the period.

2.2 Case Study 2: "Francisco Goya y Lucientes, Pintor" from *Los Caprichos de Goya* (Mario Castelnuovo-Tedesco)

The purpose of these case studies is to illuminate aspects of guitar fingering in order to better understand its function in the music we hear. Case Study 1 highlighted the delicate relationship between fingering and aesthetic judgment, where issues of historically-informed performance practice arose to connect fingering with performance style. Many of these issues arose because of contention generated by an absence of notated fingering. Hence, a great onus rested on the performer in selecting fingerings based on issues of performance interpretation, especially as they related to early-19th century music.

The present case study operates on a very different level because, unlike the Coste Op. 16 *Fantasia*, Mario Castelnuovo-Tedesco's introductory work to his grand collection *Los Caprichos de Goya* contains an abundance of notated fingerings. Originally conceived for Andrés Segovia but never revised or performed by him, these very late works of Castelnuovo-Tedesco had to wait until after the composer's death before enjoying editorial treatment by the Italian guitarist Angelo Gilardino. Gilardino's extensive fingerings and suggestions for note revisions (the latter indicated on separate staffs above the corresponding original bars) cast an analysis and discussion of fingering in a different light to that undertaken in the previous case study. In the present section, Gilardino's fingerings themselves will form the basis for discussion, where analysing their implications for the music that we hear will further illuminate the highly influential role of fingering in guitar music. Instances where Gilardino has revised Castelnuovo-Tedesco's original material will also be considered in light of the influence of fingering. Further, my own suggestions for additional revisions will be presented as a product of the conclusions reached regarding fingering. Also unique to this case study is

the fact that Castelnuovo-Tedesco was not himself a guitarist, although he was very familiar with writing for the instrument after having contributed a large body of works to the guitar repertoire. That Castelnuovo-Tedesco was a pianist (with the piano likely serving as his compositional point of reference) is evident in the types of textures he writes in his guitar music, many of which require careful consideration of fingering in order to be playable. This investigation will provide more insights into the performer's understanding of the role of fingering in interpretation, as well as in the process of arranging and writing music for the guitar.

Each case study in the present thesis inevitably favours certain issues in the Chapter 1 theory over others. In the Coste Op. 16 *Fantasia*, the issue of interlinear independence was more closely aligned with sonority than the construction of phrase groups through articulation. In that study, the issue of notational conventions also played a significant role. In the case of *Los Caprichos*, the construction of groups through articulation and the role of fingering in asserting interlinear independence will be seen to be relatively straightforward and un-contentious. The more substantial issue of mechanism and technique, however, will give rise to several significant conclusions about the role of fingering in the idiomatic playability of guitar music. Owing to Gilardino's extensive fingering, as well as a plethora of other performance indications in the score (such as for example, articulation, accentuation and dynamic signs) the relative unambiguity of the score means that issues of notational conventions provide little scope for discussion with respect to fingering. As such, this issue will not be addressed in the present case study.

Again, the purpose of this investigation is to add breadth to the performer's interpretive outcomes by illuminating the highly influential role of guitar fingering on the musical end-product. In the case of *Los Caprichos*, issues arising from Gilardino's

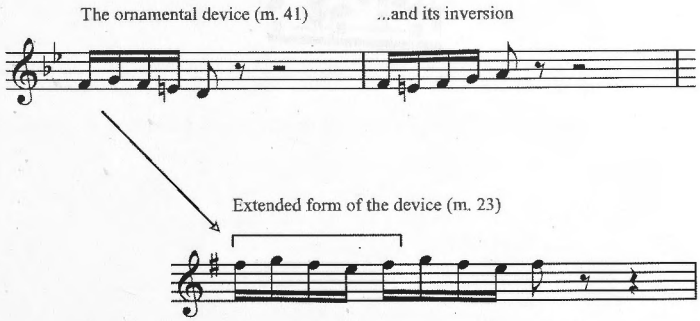
editorial process will also benefit the non-guitarist composer/arranger, where fingering will be seen to lie at the heart of the process of revising a guitar work composed by a non-guitarist composer.

2.2.1 Fingering and Phrasing: Slurs and Open Strings in Effecting Clear Articulation and Interlinear Independence

The Construction of Groups through Articulation

Fingering, especially through the use of open strings and the left-hand slur technique, has a subtle yet persuasive effect on the articulation of small motivic units in the first work of Castelnuovo-Tedesco's *Los Caprichos de Goya*. As will be seen in the next section, the articulation of small motivic units plays an important role at the micro, or foreground, level in the broader assertion of interlinear independence. For now, we will investigate a highly-characteristic ornamental device that recurs persistently through the course of this first work: a five-note figure and its inversion that bears a near semblance to a Baroque turn [Ex. 2.19]:

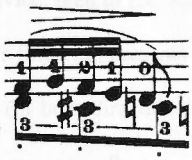
Ex. 2.18 Castelnuovo-Tedesco's ornamental device, along with its inversion and its partial extension into a double-turn.



Seen in context in Ex. 2.19, the absence of right-hand fingering leaves several options available for the guitarist: illustrated in Ex. 2.20, these are 1) to pluck every

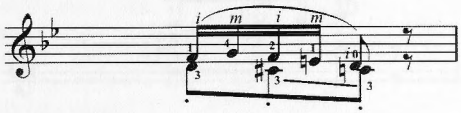
note; 2) to slur the first pair of notes on ④; 3) to slur both pairs of notes on ④; and 4) to alter Gilardino's fingering and make use of the open **g** ③ for 2 ♪ (adding slurs again where desired). These options are heard in this chapter's corresponding audio samples 44, 45, 46 and 47, respectively. The differences with respect to articulation and phrase groups are subtle but nevertheless noticeable. The articulation of every note in Option 1 is less effective in creating the type of fluency and rhythmic forward motion that makes Options 2 and 3 and, to a greater extent Option 4, sound easier and more ornamental. This is likely due to the very subtle staccato created by articulating every note in Option 1, as distinct from the legato resulting from slurring two notes together, an effect heightened through the use of the cross-string fingering. This distinction in articulation, supported by the relative technical ease effected by the addition of the slurs and the open ③ string, works wonders in asserting this melodic device's independence from the lower descending, staccato bass line.

Ex. 2.19 Mario Castelnuovo-Tedesco, "Francisco Goya y Lucientes, Pintor" in *24 Caprichos de Goya*, ed. Angelo Gilardino, 4 vols. (1; Ancona: Edizioni Musicali Bèrben, 1970), m. 41 [excerpt].

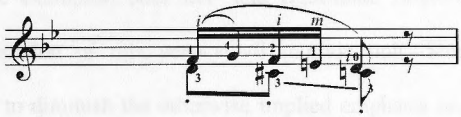


Ex. 2.20 Mario Castelnuovo-Tedesco, "Francisco Goya y Lucientes, Pintor" in *24 Caprichos de Goya*, ed. Angelo Gilardino, 4 vols. (1; Ancona: Edizioni Musicali Bèrben, 1970), m. 41 [excerpt]. My own alternative fingerings are suggested in Options 2-4.

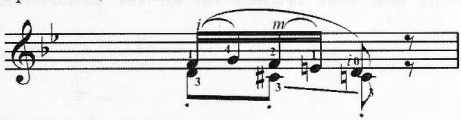
Option 1: ♫ AUDIO SAMPLE: 44



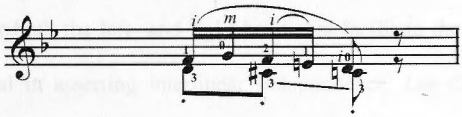
Option 2: ♫ AUDIO SAMPLE: 45



Option 3: ♫ AUDIO SAMPLE: 46

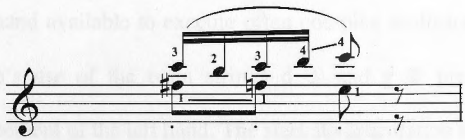


Option 4: ♫ AUDIO SAMPLE: 47

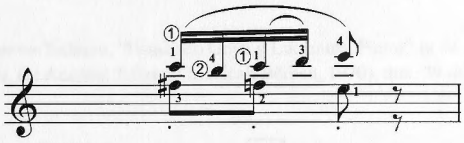


The inverted form of this device, seen in Ex. 2.21, presents similar options for the player. Here, however, Gilardino's fingering presents an awkward technical problem by forcing a longitudinal expansion (in both directions) of the left hand. The alternative presented in Ex. 2.22 favours a cross-string fingering for the first 2 ♪ that again better asserts interlinear independence by emphasising legato in the melodic line.

Ex. 2.21 Mario Castelnuovo-Tedesco, "Francisco Goya y Lucientes, Pintor" in *24 Caprichos de Goya*, ed. Angelo Gilardino, 4 vols. (1; Ancona: Edizioni Musicali Bèrben, 1970), m. 66 [excerpt]. ♫ AUDIO SAMPLE: 48.



Ex. 2.22 Mario Castelnuovo-Tedesco, "Francisco Goya y Lucientes, Pintor" in *24 Caprichos de Goya*, ed. Angelo Gilardino, 4 vols. (1; Ancona: Edizioni Musicali Bèrben, 1970), m. 66 [excerpt]. Notated fingerings are my own. ♫ AUDIO SAMPLE: 49.



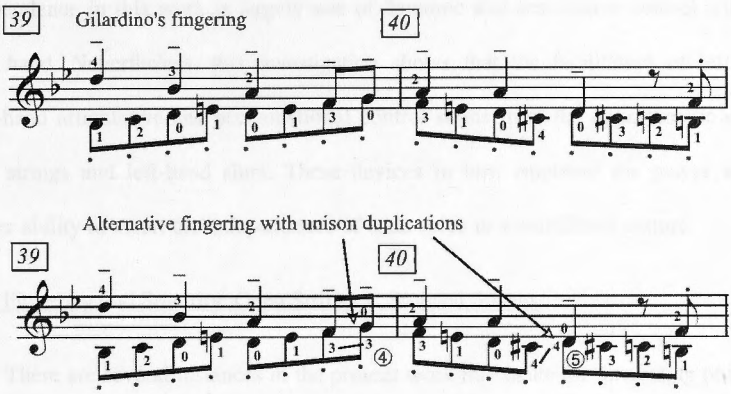
In the above examples, both left- and right-hand fingering is influential in affecting the articulation of this very small motivic unit. Slurs and cross-string fingerings are seen to diminish the otherwise implied emphasis on articulation, where legato is instead preferenced for its mechanical ease and subsequent increase in interlinear independence.

Fingering and Interlinear Independence

Fingerings for both the left- and right hand that facilitate the player's control of articulation are vital in asserting interlinear independence. *Los Caprichos* is full of moments where multilinear textures demand careful realisation in order to distinguish independent voices. Further, Castelnuovo-Tedesco is consistent in his extensive notation of articulation. In Ex. 2.23, two voices are seen to move in hetero- and contra-directional association, with occasional homodirectionality. Every note in the diatonically ascending scale of the lower voice is marked staccato, contrasted with the *tenuto* indications above each melodic component. The challenge of a passage such as this falls on the perpetual issue of the guitarist's limited resources: both left- and right hands are required in simultaneity to realise a stopped note, and there are only four fingers of the left hand available to execute often complex multilinear textures. In this example, Gilardino's use of the open strings **d** ④ and **g** ③ prevents any difficult longitudinal displacement of the left hand. The staccato articulation may be governed by

the player's lifting of each left-hand finger quickly after the initial attack of each note, in addition to the stopping of each respective string with the right hand.

Ex. 2.23 Mario Castelnuovo-Tedesco, "Francisco Goya y Lucientes, Pintor" in *24 Caprichos de Goya*, ed. Angelo Gilardino, 4 vols. (1; Ancona: Edizioni Musicali Bèrben, 1970), mm. 39-40 [excerpt]. ♫ AUDIO SAMPLE: 50.



While open strings here facilitate the player's ability to control the distinct articulations between voices with relative ease, the issue of interlinear independence becomes problematic when the two voices combine to move homodirectionally, in exact unison, but with different articulations: is it the composer's fastidious notational semantics that appear to require the m. 39 **f** at 7 ♪ to be played at once staccato and legato (and then to do the same with the subsequent **g**)? For the guitarist, a fingering that sees the left-hand 3rd finger slide up to **g** on ④ allows for the lower voice **g** to be rendered staccato (with a distinct metal-wound string timbre) against the upper voice legato **g** on the open (plain nylon) ③ string. The same effect can be achieved in the second measure, where the two **d**s at 2 ♪ can be played in unison on ⑤ and open.

At speed, however, it is debatable as to whether even the discerning listener would hear the difference between my suggested fingering and Gilardino's (See Audio Sample 50 by way of comparison). Further, with respect to the issue of distinct articulations, it

is entirely possible that the staccato in the lower voice and the *tenuto* in the upper voice can be realised with the fingering technique of stopping the strings using the right-hand fingers alone (i.e. The left-hand fingering plays only a nominal role in asserting interlinear independence through articulation). Thus, the issue of asserting interlinear independence in this work is largely one of dynamic and articulative control with the right hand. Nevertheless, this investigation shows that the facilitation of left- and right-hand articulative and accentuational control stems from the opportunistic use of open strings and left-hand slurs. These devices in turn empower the player with a greater ability to assert the independence of each voice in a multilinear texture.

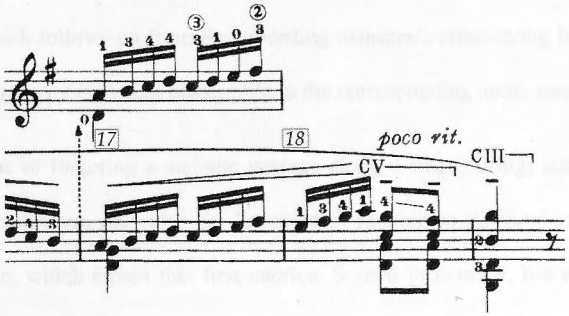
2.2.2 Fingering and Sonority: Open Strings v. Stopped Strings

There are several instances in the present work that make for interesting points of discussion regarding sonority. In the discussion below, the selection of open strings versus stopped strings, and the use of cross-string fingerings compared with contiguous string fingerings, will be compared. The findings represent the choices the player and composer/arranger may consider in selecting a fingering that best realises one's musical intentions.

The first measure of Ex. 2.24 shows an instance where Gilardino has suggested a revision to the composer's original material, which in turn produces an interesting effect on the passage's sonority. Gilardino's revision (seen in the upper staff) omits the **g** in the downbeat chord which, although conveniently playable using the open ③ string (simultaneously with the open **d** ④), would nevertheless make it impossible for the player to access the first melodic note **a** (found in first position on the ③ string) without prematurely interrupting the harmonic note **g**. Realising Castelnuovo-Tedesco's original measure would require the stopping of both **d** and **g**, so it is clear that Gilardino is

favouring the use of at least one open string in his chord instead of no open strings at all. This is evidently demonstrative of a considered approach to sonority; whereas two stopped notes might suggest a greater resonance than one, it is more often the case in guitar performance that open strings produce a richer resonance than stopped strings.[146] Hence, in the present example, the open **d** sounds more resonant than a stopped **d** against **g**.

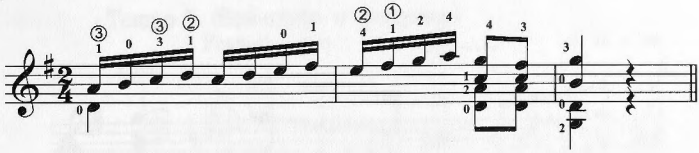
Ex. 2.24 Mario Castelnuovo-Tedesco, "Francisco Goya y Lucientes, Pintor" in *24 Caprichos de Goya*, ed. Angelo Gilardino, 4 vols. (1; Ancona: Edizioni Musicali Bèrben, 1970), mm. 17-19. ♫ AUDIO SAMPLE: 51 (lower staff); ♫ AUDIO SAMPLE: 52 (upper staff).



In what might seem a curious restriction of sonority, however, Gilardino's fingering for the upper melodic voice is for half of this first measure entirely along the ③ string, and for the latter half across the three treble strings. The first measure of Ex. 2.25 shows an alternative fingering that takes advantage of the open **b'** ② string and the cross-string fingering of **c'** on ③ and **d'** on ②. This effect is arguably more consistent with the latter half of Gilardino's fingering, which suggests an attempt to increase the guitar's sonority through the use of more open strings. The remainder of Gilardino's fingerings, however, are perhaps more in keeping with asserting the independence of the upper voice as a melodic line with a consistent timbre and legato (as opposed to legatissimo) articulation.

[146] See John Taylor, *Tone Production on the Classical Guitar* (London: Musical News Services Ltd., 1978), 25, 32.

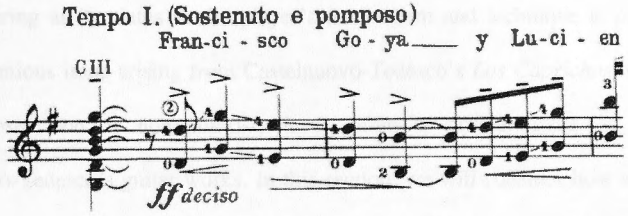
Ex. 2.25 Mario Castelnuovo-Tedesco, "Francisco Goya y Lucientes, Pintor" in *24 Caprichos de Goya*, ed. Angelo Gilardino, 4 vols. (1; Ancona: Edizioni Musicali Bèrben, 1970), mm. 17-19. Notated fingerings are my own. ♫ AUDIO SAMPLE: 53.



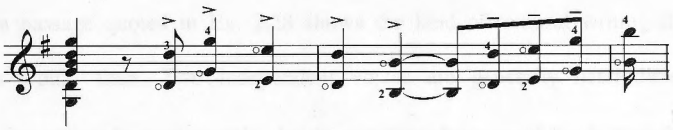
The subsequent measure contains another instance of restricted sonority. In Ex. 2.24, Gilardino has fingered the three closing chords of the phrase in the fifth and third positions, opting for the stopping of every note in each chord. Ex. 2.25 shows an alternative which follows-on from the preceding measure's cross-string fingerings. The difference in sonority is readily discernible in the corresponding audio samples.

The issue of fingering a melodic passage along a single string, compared with a cross-string realisation, may also be discussed in relation to the final iteration of the opening theme, which closes this first caprice. Scored in octaves, but with the upper voice fingered by Gilardino entirely on ②, the effect is characterised by timbral homogeneity and strong legato, emphasised with natural *portamento* between each position change [Ex. 2.26]. The power of fingering to influence sonority may be witnessed in the alternative fingering suggested in Ex. 2.27, where cross-string fingerings are used to impel a deliberate legatissimo. The timbral homogeneity of Ex. 2.26 is sacrificed, but the new characteristic is one of added internal reverberance, an effect not too dissimilar to that of raising the dampers on a piano.

Ex. 2.26 Mario Castelnuovo-Tedesco, "Francisco Goya y Lucientes, Pintor" in *24 Caprichos de Goya*, ed. Angelo Gilardino, 4 vols. (1; Ancona: Edizioni Musicali Bèrben, 1970), mm. 91-2. ♫ AUDIO SAMPLE: 54.



Ex. 2.27 Mario Castelnuovo-Tedesco, "Francisco Goya y Lucientes, Pintor" in *24 Caprichos de Goya*, ed. Angelo Gilardino, 4 vols. (1; Ancona: Edizioni Musicali Bèrben, 1970), mm. 91-2. Notated fingerings are my own. ♫ AUDIO SAMPLE: 55.



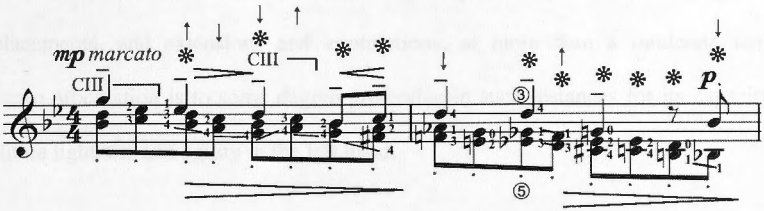
Both of these examples point towards diametrically-opposed effects of the relationship between fingering and sonority; timbral unity, favoured by avoiding open strings and cross-string fingerings, versus enhanced internal resonance, facilitated by the more frequent use of open strings and cross-string fingerings. The decision either way is dependent on the intended musical effect, which can be determined entirely by the performer and/or based on consideration and research of the composer's musical intentions (where they are available). In the above passage, Ex. 2.27 could be justified according to the argument that the composer, who was a pianist, was likely to have used the piano as a point of reference, where the sonic effect of using the sustain pedal is alluded to by the enhanced internal resonance impelled by the guitar fingering. Seen in this light, the composer or arranger can broaden his applied understanding of orchestration at the guitar through consideration of the relationship between fingering and sonority.

2.2.3 Mechanism and Technique: A Flexible Approach

Fingering as it relates to the player's mechanism and technique is perhaps the most contentious issue arising from Castelnuovo-Tedesco's *Los Caprichos*. Given that the composer was a non-guitarist, it is often a critical issue in many of Castelnuovo-Tedesco's guitar works. In this section, we will consider how an instance of Gilardino's fingering is effective in facilitating the playability of a texturally un-guitaristic passage. I will also suggest a complete revision of both the composer's and Gilardino's chord voicing in a passage of notable technical difficulty.

The passage quoted in Ex. 2.28 shows the kind of textural writing that most guitarists would shun. Two independent voices are generally heterodirectionally inclined, but are made most complex by the constant changing of thirds at each ♪ beat, making this passage particularly challenging. If this were not problematic enough, then the dense closeness of the parts would seal the performer's fate! A registrally compact texture of two parts (with three sounding voices) moving at even a moderate tempo, with the added issue of contrasting articulations between voices, poses plenty of problems for the guitarist owing to the distinct lack of open strings. Invariably, there are very few fingering options (usually only one) that actually make a passage like this playable. In the present case, while all these notes *can* be played, the left hand is often quite vigorously extended (longitudinally) in order to facilitate the tight density-compression.

Ex. 2.28 Mario Castelnuovo-Tedesco, "Francisco Goya y Lucientes, Pintor" in *24 Caprichos de Goya*, ed. Angelo Gilardino, 4 vols. (1; Ancona: Edizioni Musicali Bèrben, 1970), mm. 44-45. ♫ AUDIO SAMPLE: 56.



The technique Gilardino employs to alleviate some of the player's problems is that of using common fingers to slide between one (and sometimes both) of the notes comprising each lower-voice interval of a third. These common fingers provide some physical security for the player, who can maintain consistent contact with the strings while still undergoing frequent longitudinal displacements. That in the space of only 2 measures there are no less than 10 left-hand position changes (indicated with ✻), and 4 contractions (indicated with ↓) and 3 extensions (indicated with ↑) from the standard hand position,[147] is indicative of the high level of left-hand activity required to render this type of texture playable. Remarkably, Castelnuovo-Tedesco's notated articulation itself compensates for this textural complexity: the light, constantly lifting left-hand activity required to undergo each position change, extension and contraction, perfectly facilitates the expression of staccato in the lower voice. Physical security is then further established by maintaining tension in those fingers required to render the melodic components legato.

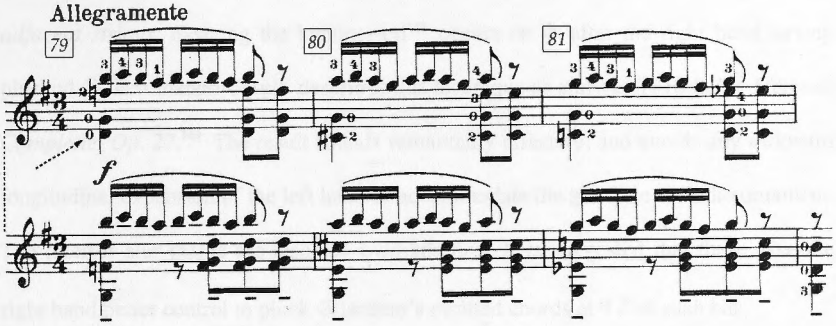
Here, as in many instances throughout the guitar repertory, an advanced approach to the physical mechanism of performance technique can, to a certain extent, allow the player to negotiate even complex textures such as this one. Of primary interest to both

[147] For the purposes of the present study, the standard hand position refers to the condition of the left hand occupying one-finger-per-fret.

performer and composer in the present case is perhaps the relationship between articulation and the mechanism required to perform this passage. A light and agile left hand is better suited to textures of some complexity that require frequent longitudinal displacements, and extensions and contractions, at more than a moderate tempo. Staccato articulation is to some degree preferable in such instances for its capacity to facilitate lightness and agility in the left hand.

This aspect of Gilardino's fingering is illuminating for the way it integrates the mechanical facilitation of a complex texture with the composer's notated articulation. Illuminating, yes, but contentious, probably not. The performer is more limited in his fingering options in this passage than, say, in the passage quoted in Ex. 2.29. Here, Castelnuovo-Tedesco's original material is seen in the lower staff. Gilardino's upper-staff re-working of the passage sees the hefty 3-note chords at each downbeat reduced to 2-note chords (m. 79 being the only exception). Gilardino's chord voicing also removes the lower **G** that pedals each chord. Arguably a fingering decision, this voicing removes the practical impossibility of reaching the upper melodic ornamental figure with the extended 2nd, 3rd and 4th fingers along ① while maintaining the root of the chord with the 1st finger at the 3rd fret on ⑥ - an impossible extension for even the largest of hands. One final editorial revision is the rhythmic reduction of ♪♪♪ to ♪♪ in the accompaniment. In this case, the composer's original rhythm is at least not impossible to achieve, but the chords certainly are (there just aren't enough fingers!). Hence, Gilardino's suggested voicing.

Ex. 2.29 Mario Castelnuovo-Tedesco, "Francisco Goya y Lucientes, Pintor" in *24 Caprichos de Goya*, ed. Angelo Gilardino, 4 vols. (1; Ancona: Edizioni Musicali Bèrben, 1970), mm. 79-81. Gilardino's revision is on the upper staff. ♫ AUDIO SAMPLE: 57.

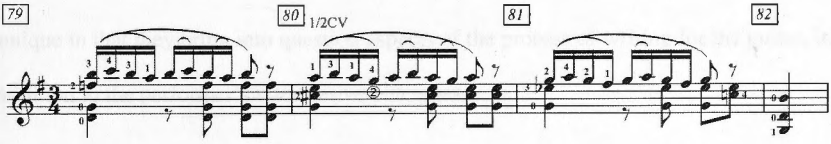


Nevertheless, Gilardino's chord voicing is anything but easy. The latitudinal displacement of fingers 2 and 3 in m. 80 still makes for a very awkward 4th finger extension to reach the melodic ceiling at ① / VII. Further, the rapid longitudinal, and latitudinal shift of 3 from the melodic line to the **e'** in the accompanying chord makes it difficult to effect a smooth and unnoticeable transition into 3 ♩.

An alternative solution is presented in Ex. 2.30. The chords have been voiced much more closely, eliminating the need to extend the left hand in order to reach distant bass notes. Unlike the first example given in this section, the present textural contraction actually facilitates a more idiomatic realisation. This is largely due to the highly active melodic ornamental figure, which always demands three left-hand fingers, leaving only one remaining to support the accompaniment. Without the need to have this single finger stretch to a bass note that is registrally remote, the closer left-hand position can be devoted to the comfortable and expressive realisation of the upper voice. Added bonuses are being able to maintain Castelnuovo-Tedesco's original rhythm and supporting bass note **g** (albeit an octave higher).

Admittedly, a rather unusual fingering trick is employed here, borrowed from an early-19th century fingering convention. The slur at 2 ♪ of m. 80 is conducted *across two adjacent strings*, meaning the hammer-on[148] occurs on ② after the right hand having plucked ①. Ferdinando Carulli describes this technique as early as 1810 in his *Méthode Complette, Op. 27*.[149] The result sounds remarkably effective, and avoids any awkward longitudinal expansion of the left hand to accommodate the **g'** of the melodic ornament. The interior slur marks are also my own addition. It is suggested that these give the right hand better control to pluck Gilardino's omitted chords at 4 ♪ of each bar.

Ex. 2.30 Mario Castelnuovo-Tedesco, "Francisco Goya y Lucientes, Pintor" in *24 Caprichos de Goya*, ed. Angelo Gilardino, 4 vols. (1; Ancona: Edizioni Musicali Bèrben, 1970), mm. 79-82. Notated fingerings are my own. ♫ AUDIO SAMPLE: 58.



The real problem for the non-guitarist-composer here is probably understanding when a longitudinal, and/or latitudinal, displacement, extension or contraction, is going to cause problems for the player when they tackle textures on the guitar that seem simple on an instrument such as the piano. Texture-space has a big part to play here, as does the availability of open strings and density-number (or the number of notes to be realised at any one time). Technical subtleties, the likes of which have been discussed above, are ultimately of the player's domain. The main point here is that fingering is more often than not at the heart of the conflict arising between a composer's texture and the performer's physical and technical options. It is the *approach* to fingering developed throughout the course of this study that the reader should take away; where the music

[148] For the purposes of the present study the term hammer-on denotes an ascending slur.

[149] Carulli, *Méthode Complette, Op. 27*, 34, 48. '...when descending, we pluck the first note which is on the upper string and we lean the finger of the left hand on the string which follows, without having plucked the string. I call this vibration.' [My own translation]. In an Italian edition, Carulli calls this effect *l'eco* (echo).

appears to present obstacles to the fluent expression of a player's interpretation, a guitarist should feel at liberty to adapt the music in order to facilitate technical ease. This approach, which is reliant upon a consideration of the various aspects of guitar fingering discussed above, will better empower the player to create effective mechanical and technical solutions to the seemingly unending array of practical issues arising from guitar performance.

Summary

The point of greatest distinction in the present case study is perhaps the fact that a non-guitarist composer wrote the work, where a guitarist has supplied the fingering and related editorial decisions. The issues with respect to fingering arising from this fact are unique in that they bring into question aspects of the process of writing for the guitar, in addition to the performer's interpretive outcomes.

An example where an issue traverses both compositional and performance processes is phrasing and articulation, where fingering with the opportunistic use of open strings and slurs may facilitate greater left- and right-hand control of articulation and accentuation. This, in turn, was seen to be effective in asserting clarity between voices.

The decision to use either open or stopped strings also plays an important role in the augmentation of the instrument's internal resonance, and in maintaining timbral continuity. These aspects of sonority are closely related to articulation, where internal resonance was seen to be a product of cross-string fingerings and the frequent use of open strings, effecting a legatissimo articulation, while timbral continuity resulted from greater use of stopped strings and legato articulation.

In the present case study, phrasing and sonority both culminated in a discussion of the player's mechanism and technique. In the analytical realm of musical texture, where both phrasing and sonority play decisive roles, physical digressions from a neutral hand position (longitudinal and latitudinal displacements, extensions and contractions) were shown to exist in a delicate relationship with textural issues such as for example, chord voicing and articulation. The study highlights how the collaborative relationship between the composer, the editor, and finally the performer all factor in the eventual realisation of a convincing musical result. Seen in this light, fingering may almost become as much a part of the compositional process as the writing of the notes themselves.

2.3 Case Study 3: "Wainscot Pond" from *In the Woods* (Toru Takemitsu)

Inspired by Cornelia Foss's painterly abstractions of a distant pond between clear blue skies and alluring greenery, Toru Takemitsu's "Wainscot Pond" evokes a timbral colour palette of extraordinary diversity and depth. *In the Woods,* the collection of independent pieces of which "Wainscot Pond" is the first, was one of the final works written by the composer before his death. This collection is the last of Takemitsu's substantial contribution to the guitar repertory. Guitarist Julian Bream recalls Takemitsu's claim that 'of all the instruments...the guitar was the one he loved the most.'[150] Takemitsu's knowledge and firsthand experience of the guitar appears to be limited to ownership of a Ramirez,[151] which he played 'a little in private'.[152] Significant and unique issues for fingering arise from Takemitsu's individual approach to writing for the instrument as well as his startling array of tone colours. This case study will explore relationships between phrase groups and dynamic contrasts, notational conventions and interlinear independence. Sonority will be seen to be effectively manipulated through the use of unison duplications and harmonics. Lastly, issues pertaining to mechanism and technique will be discussed, especially insofar as they present significant challenges to the player that are perhaps unique in the guitar repertory.

[150] Julian Bream, 'Toru Takemitsu: An Appreciation', *Guitar Review,* 105/Spring (1996), 2-3, 2.
[151] David Tanenbaum, 'A Brief Takemitsu Memorial in Three Parts', ibid. 6-7, 6.
[152] John Williams and Manuel Barrueco, 'Remembering the Composer', ibid. 3

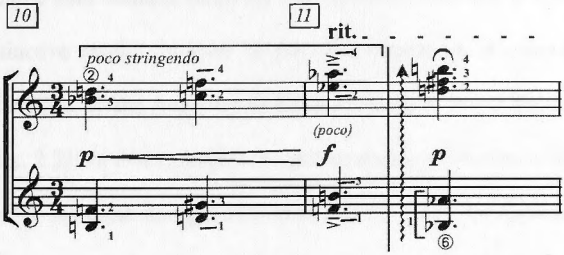
2.3.1 Fingering and Phrasing: Phrasing Dynamics and the Assertion of Independence in Precisely-Notated Multilinear Textures

The Construction of Groups through Articulation

Unique to the present case study is the interaction between fingering in the construction of groups through articulation, and dynamic contrasts. While Takemitsu provides scarce indications as to fingerings, his instructions for dynamic nuance are precise and abundant. In the absence of notated fingerings, the suggestions shown here are expressive of Takemitsu's prescribed dynamics through their subtle distinction of corresponding phrase groups.

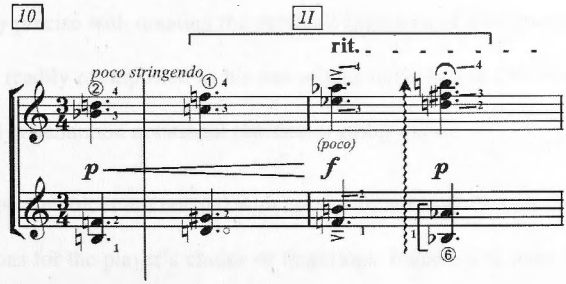
Two fingering options for the same passage are presented in Exs. 2.31 and 2.32, both of which are expressive of the composer's notated dynamics in different ways. The first option [Ex. 2.31] shows the left-hand 4th finger sliding along the ② string, as well as a static left-hand chord shape (half-diminished seventh) for the second and third chords of the phrase. This results in the longitudinal displacement of the left hand from II to V to VIII, which in turn facilitates an unbroken legato from the downbeat of m. 10 that supports the rapid *crescendo* to m. 11. At this point, a complete left-hand position change, necessitating a disconnect in sound through the lifting of all the fingers, is effective in assisting the player in executing the sudden contrast to *piano* for the second chord in m. 11.

Ex. 2.31 Toru Takemitsu, "Wainscot Pond" in *In The Woods* (Tokyo: Schott Japan, 1996), 3. Option 1 Fingering, mm. 10-11. ♫ AUDIO SAMPLE: 59.



The second option [Ex. 2.32] sees the static left-hand chord shape on the upper four strings instead of the middle four strings. Here, the resultant legato creates a phrase group that starts from the *second* chord of m. 10 (indicated by the bracket above the staff) and goes right through to the final chord in the phrase. The disconnect here is not between the penultimate chord and the subsequent sudden *piano* but, instead, between the first two chords of m. 10. In this instance, the left-hand fingering interrupts the dynamic *crescendo* as soon as it starts, and easily connects the final two chords that are dynamically distinguished. Option one corresponds exactly with the indicated dynamics, while option two creates a nice legato to end the phrase.

Ex. 2.32 Toru Takemitsu, "Wainscot Pond" in *In The Woods* (Tokyo: Schott Japan, 1996), 3. Option 2 Fingering, mm. 10-11. ♫ AUDIO SAMPLE: 60.



The two options presented above, along with their corresponding audio samples, show that dynamics can be realised independently from left-hand fingering.

Nevertheless, the nice correlation here between phrase groups and metrically-aligned changes in volume does connect fingering with dynamic contrasts in a way that yields subtle yet distinctive results. In spite of the clear alignment between dynamics and phrase groups created by the fingering in Ex. 2.31, there is in performance a physical advantage to Ex. 2.32. In that example, the phrase ending is reached with a continuing upward motion of the hand being drawn closer to the body, as opposed to reversing longitudinal direction as in Ex. 2.31. This may in fact better facilitate the player's ease of left-hand mechanism, therefore allowing the guitarist greater freedom to more carefully control the dynamic contrast of *forte* to *piano* with the right hand. In this case, the mechanism of this passage's position change may more significantly influence the player's fingering decision. Nevertheless, an awareness of the relationship between phrasing and dynamics may still be useful in assisting the player to choose fingerings that might be best representative of the composer's notated expressive nuances, especially where they are prescribed in such detail as in the guitar works of Takemitsu.

Interlinear Independence

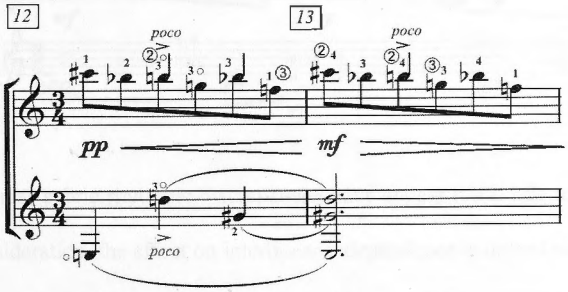
In "Wainscot Pond", notational conventions give rise to a critical issue of textural interlinear independence. Takemitsu is not only fastidious with his dynamic marks, he is also extremely precise with notating the rhythmic durations of individual voices. This is perhaps most readily exemplified in his use of two staffs in this first work from *In the Woods*; a fairly uncommon notational practice in guitar music.

That separate voices are notated with careful attention to distinct durational values has implications for the player's choice of fingerings. Indeed, it is often the case in this work that Takemitsu's notational precision is as much a fingering indicator as conventional Arabic numerals themselves, for there is often only one option for

fingering that can accurately realise each voice independently with the prescribed rhythmic values.

An example is given in Ex. 2.33. Takemitsu has indicated harmonics,[153] while the fingering numerals are my own. In this instance, the lower staff is indicative of accumulative density-number; three sounding components (from one real part) are heard in m. 13 after staggered entries in the preceding bar. While this would necessitate the concurrent resonance of three separate strings, the upper voice contains a further 2 independent lines, notated with opposing stem directions. Unlike the lower voice, where the texture is clearly suggestive of an arpeggiated chord, the upper voice appears to be monolinear, with a colouring effect of increased note durations highlighting a **b'-b♭'-b'** motif. The indicated harmonics above **b'** and **g'** in m. 12 are helpful in allowing some freedom in the left-hand fingers, especially with respect to the ♩ **b'**, where the suggested 3rd finger is not tied-down to sustaining this note on ② and can instead be available for the subsequent **g'** and **b♭'**.

Ex. 2.33 Toru Takemitsu, "Wainscot Pond" in *In The Woods* (Tokyo: Schott Japan, 1996), 3, mm. 12-13.
♫ AUDIO SAMPLE: 61.

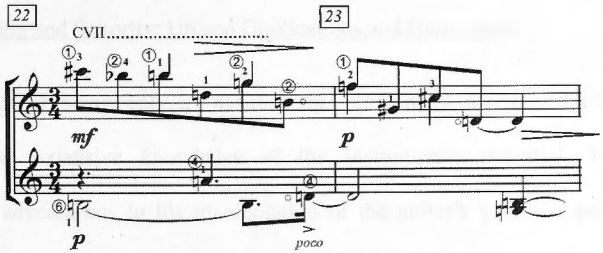


Not every passage of this nature in "Wainscot Pond" is fortunate enough to have a few carefully placed notated harmonics to provide some assistance to the player. Ex.

[153] Takemitsu adopts the notational convention of indicating a harmonic with a small circle above a notehead.

2.34 shows a similar figure, this time with only 2 real independent parts in the lower staff occurring concurrently with an upper monolinear texture. Here again, selected notes are highlighted as a separate voice through extended rhythmic durations. There is no practical fingering to this author's knowledge that will facilitate the true realisation of all these written notes for their precise notated durations. A barré in m. 22 provides for the full duration of the upper voice ♩ **b'**, while the subsequent **d'** (also part of the barré) may be sustained for longer than its notated ♪ duration before being interrupted by the lifting of the barré. So far, not so problematic. Unfortunately, the upper voice ♩ **g'** has to be shortened to a ♪ owing to the necessity to play the subsequent open **b** ② and lower-voice **d**, while transitioning to I to execute m. 23. The **g'** in m. 22 isn't the only note to suffer a shorter life than notated; the **a** in the lower staff of the same bar also has to end its time a ♪ beat earlier to make way for the open **d** ④.

Ex. 2.34 Toru Takemitsu, "Wainscot Pond" in *In The Woods* (Tokyo: Schott Japan, 1996), 3, mm. 22-23.
♫ AUDIO SAMPLE: 62.



While these subtle rhythmic discrepancies may appear *too* subtle to warrant such extended consideration, the effect on interlinear independence is indeed real and audible to a discerning listener. In reality, however, this may be a dilemma more for the composer than the audience; to what extent can all aspects of the notation (including those influential as to interlinear independence) be fastidiously adhered to in performance? Is there indeed any value in being so precise with the notation of separate

voices on an instrument that for the last 200 years has made-do with 'intermediate' levels of voice separation in printed scores on the basis that the guitarist will invariably know how best to control the sonorities? This question is precisely at the core of the present study. An example such as this case study shows that there are performance-based limits to the composer's specificity when it comes to details in a notated score. On the guitar, these limits are an issue of fingering. A careful study of fingering the likes of which have been demonstrated above, however, can show that complex 5-part textures are indeed possible on the guitar, especially with the assistance of some strategically-placed harmonics and barrés. Fingering inevitably becomes the decisive factor in the realisation of the composer's intended textures. It is a relationship that reflects the often-witnessed collaborative nature of guitarists and non-guitarist-composers in the composition of new guitar works. Further, it embodies an internal relationship existing within a guitarist-composer, whose active knowledge of fingering can inevitably play a part in the process of composition itself.

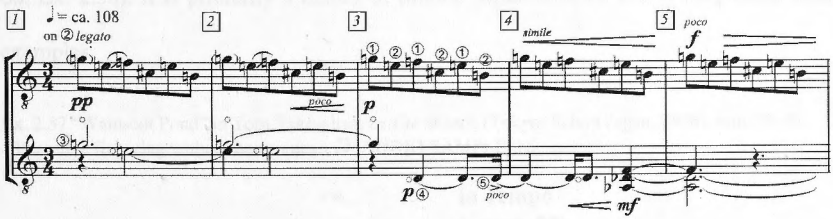
2.3.2 Fingering and Sonority: Unison Duplications and Harmonics

In spite of being only a 'rudimentary guitarist,'[154] albeit one who evidently possessed an extensive knowledge of the instrument's potential, Takemitsu is remarkably adventurous in his manipulation of the guitar's sonorous peculiarities to achieve variations in timbre and resonance. Unison duplications, where timbral variation results from playing the same pitch on different strings, constitute one such device observable in "Wainscot Pond." The composer also makes considerable and original use of both natural and artificial harmonics, both to facilitate the realisation of textures that would otherwise be impossible given the instrument's tuning and number of strings, as well as simply for the unique colouristic effect of harmonics on the guitar.

[154] David Tanenbaum, 'A Brief Takemitsu Memorial in Three Parts', *Guitar Review*, 105/Spring (1996), 6-7, 6.

An instance where unison duplications are particularly striking is in the opening statement. Notated over two separate staffs, the statement quoted in Ex. 2.35 contains unison duplications of **g'** and **e'** in the first two measures, and **d** in mm. 3-4. In the first two measures, the entire upper staff is indicated to be realised legato on ②. Unison duplications of **g'** and **e'** are then suggested by the open string harmonic on ③ and the open string ①, respectively. The latter is displaced metrically by ♪, creating the illusion that the preceding **e'** is continuing to resonate, despite its having been slurred by the sliding of one left-hand finger to the adjacent note **f'**. The alternation of the duplicated **g'** and **e'** components creates a powerful field of resonance within which the highly characteristic legato line can interweave. In mm. 3-4, unison duplications occur in the lower staff alone, where **d** is realised first on the open ④ and then subsequently on the stopped ⑤. That there is no practical or physically advantageous reason observable for this fingering indicates that the intention here is very clearly one of an intended timbral contrast brought about by the change in thickness of string, and the resulting difference in resonance between the open and stopped strings.

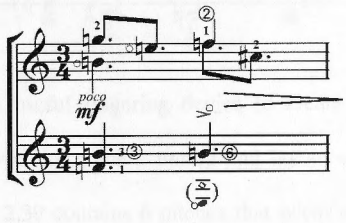
Ex. 2.35 "Wainscot Pond" in Toru Takemitsu, *In The Woods* (Tokyo: Schott Japan, 1996), mm. 1-5. ♫ AUDIO SAMPLE: 63.



Another instance of unison duplications is illustrated in Ex. 2.36. Here, Takemitsu's repeated notation of the note **b** on both upper and lower staffs, as well as his fingering indication for the upper-staff **b** to be played on the open string, suggests the fingering of the lower-staff **b** on ③. The powerful effect of the resonance created by

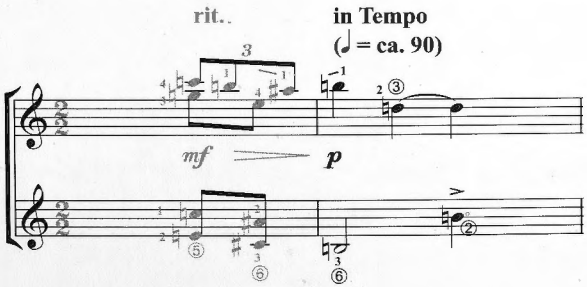
the combination of both open and stopped string **bs** is only reinforced by the repetition of the same pitch at the ⑥ string harmonic at VII. The effect of this unison duplication is to almost flood the passage with the continued and assertive presence of **b**, an effect uniquely achievable on the guitar.

Ex. 2.36 "Wainscot Pond" in Toru Takemitsu, *In The Woods* (Tokyo: Schott Japan, 1996), m. 34. ♫ AUDIO SAMPLE: 64.

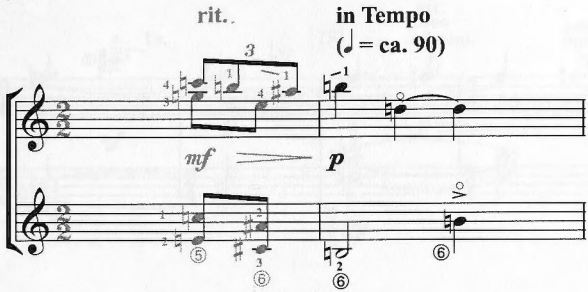


The harmonic **b** in Ex. 2.36 is suggestive of Takemitsu's use of harmonics as a colouring device. There are further instances in this work where both natural and artificial harmonics are used to colour a passage with the unique resonance peculiar to harmonics on the guitar. Ex. 2.37 is one such instance. Here, **d'** and **b** may be fingered on ③ and open ②, respectively. Audio Sample 65 may be used to compare this fingering with Takemitsu's actual notated use of harmonics for both these pitches (Audio Sample 66; Ex. 2.38). It is primarily a matter of timbral differentiation that distinguishes both examples.

Ex. 2.37 "Wainscot Pond" in Toru Takemitsu, *In The Woods* (Tokyo: Schott Japan, 1996), mm. 39-40. Alternative fingering without harmonics. ♫ AUDIO SAMPLE: 65.

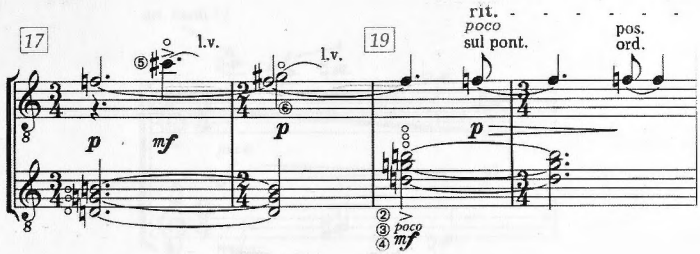


Ex. 2.38 "Wainscot Pond" in Toru Takemitsu, *In The Woods* (Tokyo: Schott Japan, 1996), m. 34. My own fingering with Takemitsu's notated harmonics. ♫ AUDIO SAMPLE: 66.



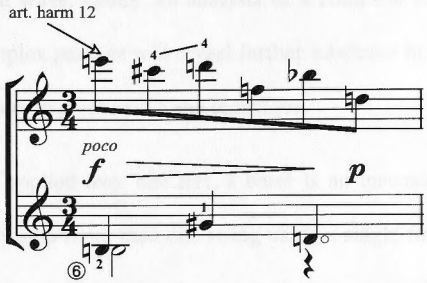
Harmonics are also a useful fingering device to create sonorities that would otherwise be impossible given the guitar's tuning and layout of the fingerboard. For example, the texture in Ex. 2.39 contains 6 pitches that occur concurrently within the first two measures. These pitches lie within the range **d-c#''**, with most of the notes lying within the lower part of the texture-space. A few minutes spent trying to realise this passage without the use of harmonics would reveal a physical impossibility. This is partly due to there being only two places (①/IX and ②/XIV) where the **c#''** can be played. At both positions, at least one note in the 6-note texture is un-accessible. It is due to the combination of open strings and the fingering of the 2 highest pitches as harmonics on the lowest strings that this passage is indeed playable at all. Again, Takemitsu's unique compositional approach is seen to give rise to fingering options that expand the guitar's textural and timbral possibilities.

Ex. 2.39 "Wainscot Pond" in Toru Takemitsu, *In The Woods* (Tokyo: Schott Japan, 1996), mm. 17-20.
♫ AUDIO SAMPLE: 67.



Occasionally, harmonics may serve as a useful tool in the accurate expression of the composer's prescribed rhythmic values, especially in instances where some notes appear inaccessible. Ex. 2.40 presents a dilemma for the guitarist if the low **B** at ⑥ VII is to be held for the duration of a ♩ ; a stretch is required to reach the top **e''**, necessitating a considerable latitudinal extension of the left hand. The notes on the VI fret (**g♯, f'** and **b♭'**) are inaccessible if the widest latitudinal extension (1-4) is employed. The passage is, as written, physically impractical unless the player has a particularly unusual capacity to extend fingers 2-4 over 5 frets (a physical stretch that, even if possible, would nevertheless have an effect on the rhythm resulting from the player's efforts to produce such a severe extension). Employing the open string harmonic for the top **e''** (realised with the right hand only) allows the 2nd finger to comfortably sustain the low **B** while freeing the remaining fingers to execute the rest of the notes according to the rhythmic character and motion desired by the player. In this sense, the choice to change the composer's score by fingering a note as a harmonic is seen to free the left hand from an otherwise physically impractical stretch. The result is inevitably greater freedom for the performer in rendering the passage with the player's intended musical character, as opposed to letting the rhythm of the passage be directly influenced by an effortful extension of the left hand in order to reach all the notes.

Ex. 2.40 "Wainscot Pond" in Toru Takemitsu, *In The Woods* (Tokyo: Schott Japan, 1996), m. 28. ♫ AUDIO SAMPLE: 68.



This example illuminates an interactivity between fingering with respect to sonority, and mechanism and technique - an issue that will be further explored in the next section. Aside from the physical implications arising from the present discussion, the examples above are first and foremost demonstrative of the composer's highly imaginative approach to guitar composition, particularly in his remarkable technique of bringing-out sonorous characteristics that are peculiar to his musical idiom, and unique on the instrument. These include for example, his use of unison duplications to create a field of resonance for his moving voices, or his ability to effectively flood a passage with the sound of one particular note. His approach to the guitar's sonority shines new light on the aspects of fingering that underpin this study's theory.

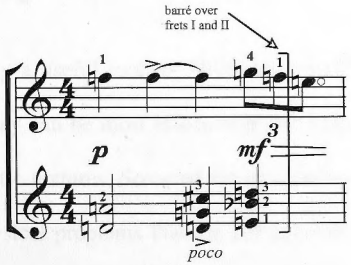
2.3.3 Mechanism and Technique: Barrés and the Complete Displacement of the Left hand

Owing to the often peculiar textures that characterise "Wainscot Pond", as well as Takemitsu's fastidious approach to notating multilinearity, an equally peculiar approach to fingering is often demanded of the player in order to faithfully realise the directions in the composer's score. It will be seen that this approach often gives rise to issues of mechanism and technique, where fingering plays a vital role in the overall physicality of

the guitarist's performance. In the present case study, barrés will feature in less-than-conventional ways. Lastly, an analysis of a complete left-hand displacement within a brief yet complex passage will reveal further subtleties in the player's approach to fingering with respect to mechanism and technique.

Conventionally applied over one fret, a barré is an instance where the player is able to simultaneously stop more than one string using a single finger (usually the first) of the left hand.[155] A cross-fret barré, executed over more than one fret, is less frequently used owing to the instability it can create in the left hand and its resulting unreliability. Nevertheless, instances do occasionally exist where a cross-fret barré is necessary and, with practice, achievable. Ex. 2.41 provides one such opportunity. The sustained resonance of the lower-staff chord at 4 ♩ depends on fingers 1, 2 and 3 not lifting from the strings until the next bar is reached. The remaining 4th finger is applied to realise the melodic note **g'** but, seeing as how the 4-note texture has placed the left hand in 2nd position, the 1st position melodic note **f'** appears unreachable. A carefully applied cross-fret barré from the bass note **e** at ④/II to the melodic note **f'** at ①/I facilitates the faithful realisation of this passage's written durations. The barré is then lifted to allow the execution of the melodic note **e'** on the open ① string.

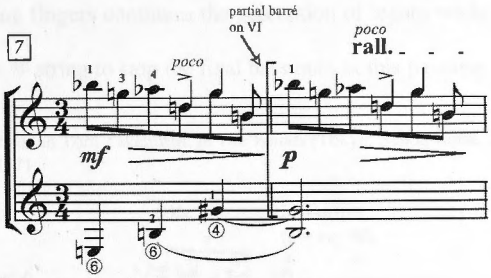
Ex. 2.41 "Wainscot Pond" in Toru Takemitsu, *In The Woods* (Tokyo: Schott Japan, 1996), m. 45. ♫ AUDIO SAMPLE: 69.



[155] Emilio Pujol, *Guitar School*, 97.

This is without doubt an unconventional application of a relatively common guitar technique, showing that imaginatively applied barrés can be useful in the execution of equally less-than-conventional musical textures on the guitar. The next example shows a further instance of the intelligent, though less conventional, application of a barré. In Ex. 2.42, a partial barré is employed at VI to realise both **g♯** on ④ and the following melodic **b♭'** on ① in m. 8. The barré is not required to reach the first instance of the melodic note **b♭'** in m. 7 because the left-hand 1st finger is otherwise unused and free to stop the **b♭'** on ①. The application of the barré in m. 8 arises from the 1st finger being used to stop the **g♯** on ④ . As a partial barré, only the lower part of the 1st finger need be applied to reach the **b♭'** on ①; the internal strings ② and ③ need not be stopped with the barré. This economical application of the barré requires less energy and effort owing to its only stopping strings ④ and ①, and not all 4 upper strings.

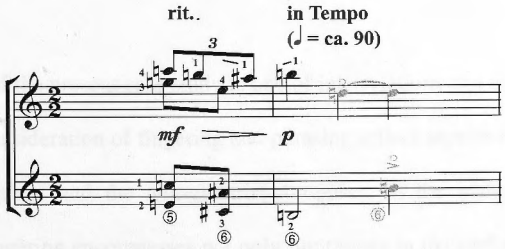
Ex. 2.42 "Wainscot Pond" in Toru Takemitsu, *In The Woods* (Tokyo: Schott Japan, 1996), mm. 7-8. ♫ AUDIO SAMPLE: 70.



Barrés are evidently a useful tool in "Wainscot Pond." Where intelligently and imaginatively applied, they can be most effective in the faithful realisation of some of Takemitsu's less guitaristic textures. Some of the textures in this work, however, give rise to technical and physical problems that are not solvable with a barré. Ex. 2.43 is useful as an instance of a very complex texture on the guitar, where 3 complete

displacements of all left-hand fingers are demanded within a short time-span of 2 ♩. Further complication arises from the polyrhythmic nature of this gesture, where density-number favours the accompanying chords and not the triplet figure that constitutes the melody. The initial left-hand chord shape sees fingers 2, 3 and 4 in a latitudinally-extended cluster over 2 adjacent frets, with the 1st finger extended a further 2 frets towards the nut. Movement to the next melodic note and subsequent chord can be executed by maintaining pressure[156] on fingers 2, 3 and 4 while releasing pressure on 1, allowing it to contract into the physical space of the chord. As pressure is applied to finger 1 in its new position at ①/VII, fingers 2, 3 and 4 are raised from the strings, their shape inverted to form the configuration of the next chord. So far, the sequential shifting of pressure between fingers required for melodic and accompanying components has maintained some sense of legato in this passage, despite the complete displacement of all left-hand fingers. Legato is further maintained in the melody through the sliding of finger 1 between **b'-a♯'-b'**. Maintaining pressure on 1 while lifting the remaining fingers continues the perception of legato while the longest finger (2) descends to the ⑥ string to stop the final bass note of this passage.

Ex. 2.43 "Wainscot Pond" in Toru Takemitsu, *In The Woods* (Tokyo: Schott Japan, 1996), mm. 39-40.
♫ AUDIO SAMPLE: 71.



[156] For the purposes of the present study the concept of pressure with respect to the use of left hand fingers denotes the muscular energy, weight or force transferred from a left-hand finger to a string.

Ex. 2.43 is fairly typical of many complex fingering passages in Takemitsu's guitar works. Here, an instance of the *physical* approach to the fingering is illuminated. Rather than being a case of determining *which* fingers to use in order to render the passage as clearly and simply as possible, the issue for the guitarist is *how* the fingers are used. In the present case, sequential pressure shifting between the fingers used for melodic and accompanying components, coupled with the opportunistic sliding of one finger between three notes, facilitates the execution of a passage that within a short amount of time comprises three complete re-configurations of all the left-hand fingers.

Both in the manner and the determination of fingering, Takemitsu's "Wainscot Pond" demands equal amounts of intelligence and creativity in the application of the fingers for the execution of relatively complex and un-guitaristic material. In avoiding textures and finger configurations that are commonly considered idiomatic on the guitar, Takemitsu demands a resourceful and often unorthodox consideration of fingering techniques from the performer, especially where issues of mechanism and technique are concerned. In this case study, the player's physical approach to fingering is likely to be just as valuable as the careful selection of fingers in the realisation of relatively un-idiomatic passages.

Summary

The story of the present case study is one of interrelations and imagination. Issues arising from a consideration of fingering and phrasing reflect aspects of the relationship between the guitarist and the non-guitarist-composer. In the realm of performance interpretation, fingering encompasses not only limitations in the performer's realisation of specific details in the composer's score, but also opportunities for the composer to create original sonorous and textural possibilities. Takemitsu's unique approach to the

composition of guitar music gives rise to a highly interactive realm of fingering-related issues where for instance, aspects of mechanism and technique are seen to affect sonority, and rhythmic notational exactness underpins the assertion of interlinear independence.

The role of the guitarist in the performance interpretation of this music concerns, among other things, decisions relating to fingering insofar as they facilitate the faithful realisation of Takemitsu's carefully constructed and notated work. As this case study demonstrates, an approach to fingering that is both fastidious and imaginative is vital in the expression of the composer's textures and sonorities. Notated dynamic and rhythmic values must be carefully taken into account in the selection of fingering. Subtleties in the physical use of the left hand can render a complex and un-idiomatic passage playable. The creative adaptation of conventional techniques such as for example, the barré and harmonics, can assist in the clear expression of physically complex manoeuvres. All this exists regardless of the extent to which the guitarist's carefully considered fingerings are actually discerned by the listener; whether an audience can fully appreciate the results of the performer's work does not preclude these fingering-related issues from existing. Rather, this case study highlights fingering as the nexus between the composer's creation of a work and its performance interpretation.

Conclusions

Perhaps the most significant conclusion to be drawn from the above case studies is that guitar fingering arises from and facilitates the performer's musical expressivity. The guitarist's intended musical expression is made clear through fingering from the subtlest articulative distinction of a phrase to the much broader evaluation of a work's stylistic aesthetic. The consideration of historically-informed performance practices

may arise especially in relation to this latter issue, where a given work's aesthetic attributes may give rise to fingering decisions that are peculiar to its performance and compositional style.

This chapter has demonstrated that a degree of flexibility is required when selecting appropriate and effective fingerings. Such need for flexibility arises out of the highly interactive nature of the four primary issues introduced in Chapter 1. For example, fingering in the assertion of melodic independence may give rise to issues in a work from the early-19th century that may be very different when performing a 20th-century work in a mostly atonal harmonic idiom. The types of issues considered by the performer as critical with respect to fingering are thus reflective of the style of music being interpreted.

Issues arising for fingering from the interaction between musical interpretation and compositional style are representative of a broader collaboration in the world of guitar music: that of the relationship between guitarist and composer. The guitarist-composer possesses an understanding of fingering that the non-guitarist-composer may not. This understanding of the intricate and extensive realm of guitar fingering influences a composition in myriad ways. The case studies explored above suggest that an approach to fingering that is both careful and fastidious, yet flexible and imaginative, will be most effective in centralising fingering as the cornerstone of the compositional and performance process. Whether a work is composed by a guitarist- or non-guitarist-composer, fingering inevitably becomes a determining feature in the process of interpreting, editing and realising a work for performance.

Specific issues arising from the present study's approach to fingering that the performer can universally apply in the process of performance interpretation include for example the use of open and stopped strings, left-hand displacements, and notational conventions. The selective use of open and stopped strings is influential in controlling internal resonance and clearly delineating independent lines in a musical texture. Left-hand displacements are effective in the clear assertion of distinct phrase groups, the expression of legato or *portamento* in a melodic line, and the facilitation of the player's mechanism and technique. A final consideration with universal application is the interpretive implications for fingering behind notational conventions, where fingering-related issues may arise from notational practices that are peculiar to a given historical period, as well as specificities within a composer's notational and compositional style.

Far from regarding fingering as a mere technical issue peculiar to performance, this study shows that guitar fingering is indeed a most decisive factor in the performance interpretation of guitar music. The findings of this study demonstrate the persuasive influence of fingering on phrasing and sonority, which in turn sees fingering as central to the realisation of the performer's musical and expressive intentions. When combined with issues of notational conventions and mechanism and technique, the wealth of issues arising from guitar fingering connects the intentions of the composer, as they may be inferred from a score and from additional relevant literature, with the communicative faculties of the performer. On balance of all these issues, this study hopes to serve as an aid to any performer who wishes to broaden his or her interpretive skills and most genuinely connect his or her technique to musical expression.

Chapter 3: Fingering in the process of writing music for guitar

Introduction

Guitar fingering may be said to lie on the blurred line between performance interpretation and the process of writing music for the instrument. Where guitar fingering becomes most interesting is in performance decisions that actually result in modification of the composer's substantive musical content. This is where fingering is at its most decisive (recall how for Segovia, Chapdelaine's alternative fingerings amounted to an entirely different transcription of the work!). In the present investigation into fingering approaches, the practical overlap between the performer's job as interpreter and the composer's job as writer suggests the need for an investigation into not only interpretive aspects, but also the compositional issues arising from the process of guitar fingering. The present chapter addresses these issues in a substantial case study of my own arrangement for guitar duet of Australian composer Robert Davidson's quintet for guitar and strings *Landscape*.

Originally scored for guitar and string quartet, Davidson's *Landscape* presents many interesting issues and challenges relating to fingering that arise during the process of arranging the work for two guitars. The selection of the guitar duet arrangement of the work *Landscape* for analysis in this chapter was made for the following reasons:

1. In the present study, chamber music settings give rise to unique issues concerning the interaction between fingering and musical attributes that are not as relevant in a solo performance context. Analysing fingering issues in ensemble music is an important part of a consideration of guitar fingering that is

intended to be readily applied to all classical guitar repertoire, irrespective of style or instrumentation;

2. The arrangement of the work has been done by the author. This facilitates the discussion of compositional options and alternatives that were encountered in the arrangement process itself, which provides valuable insights into the subtle influence of fingering in the process of writing guitar music; and

3. The original work is sufficiently complex as to allow for considerable creative freedom in the arrangement process. Condensing a string quartet with solo guitar to a guitar duet setting gives rise to significant challenges for the arranger. In finding solutions to the challenges that arise from the reduction of the instrumentation from five parts to two, issues for guitar fingering, as they relate to the arrangement process, can interact with the generation of new musical content. The resulting compositional ideas make for valuable contributions to this chapter's emphasis on the process of writing guitar music.

The methodological approach adopted in Chapter 2 will be largely maintained in the present case study analysis of *Landscape*. Phrasing and sonority will be given primary focus as these issues emerge as being most pertinent to this work. Discussion of notational issues and mechanism and technique will further support these main issues where relevant. Three different editions of the notated score will be consistently referenced in the present case study. These editions are as follows:

1. BK: Manuscript copy of arrangement by Bradley Kunda of Robert Davidson's *Landscape* for two guitars, completed in 2010 with the composer's approval;

2. RD1: Manuscript copy of original score of *Landscape* for guitar, two violins, viola and cello, completed by Robert Davidson in 2000;

3. RD2: Manuscript copy of arrangement by Robert Davidson of *Landscape* for guitar quartet, completed in 2009.

Findings from this case study, as in all other sections of the present thesis, are the results of practice-led research. In the present case, the arrangement of *Landscape* for two guitars was conceived and executed with the intention of revealing issues arising from guitar fingering. The results have been classed into the four categories of inquiry outlined in Chapter 1. That these issues can be classed into one or more of these four categories affirms the practicability and relevance of the overall approach to fingering expounded in the present study.

3.1 Fingering and Phrasing

Significant challenges arise from the process of making an arrangement for guitar duet from a work scored for string quintet. One important factor for consideration is the texture of the work.[157] A texture of considerable diversity with for example, many distinct constituent voices or parts, necessitates careful decision-making and often creative solutions[158] on the part of the arranger. Questions arise such as for example, how many different parts can one guitarist play at once, and are there any features of the original texture that need revision or omitting? In answering these questions, a new version of the original texture is invariably created to facilitate performance in the new setting. The new version will need to take into account as much as possible the textural parameters of the original including for example, qualitative parameters like the type of

[157] Lorraine Ann Abbott, 'Arranging Music for the Classical Guitar/Piano Duo, Including Three Arrangements by the Author', Doctoral Thesis (University of Miami, 2001), 30; Mark Norton, 'A Composer's Guide to Writing for the Classical Guitar', Honours Thesis (Australian National University, 1993), 4, 22; Tanenbaum, 'Scarlatti and the Transcription Process', 90.

[158] Abbott, 'Arranging Music for the Classical Guitar/Piano Duo, Including Three Arrangements by the Author', 19.

texture and the degree of interlinear independence-interdependence, and quantitative parameters such as density-number and density-compression.[159]

The present study has illuminated the vital relationship between interlinear independence and guitar fingering. In Chapters 1 and 2, fingering was shown to assert interlinear independence through the active diversification of articulation within phrase groups and the discretionary use of open or stopped strings. Further issues arise in the context of fingering and interlinear independence when writing for settings of more than one guitar. New freedoms are accessible including for example, the ability to simultaneously realise more complex textures and harmonic possibilities.[160] New challenges also emerge such as for example, an even greater imperative to assert interlinear independence in what can become a very crowded texture between the two instruments.

The guitar duet arrangement of Robert Davidson's *Landscape* presents many opportunities for useful analysis of fingering in the assertion of interlinear independence within the context of writing music for the guitar. Many solutions for overcoming issues of making principal lines clear in multilinear textures are suggested as a result of the practice-led research conducted through the arrangement process itself. It is intended that these suggestions will prove useful for the reader interested in writing guitar music, especially insofar as fingering is shown to determine actual substantive musical content.

[159] See 'Definitions' section above for explanations of these terms as they relate to the present study. See also Berry, *Structural Functions in Music*, 184-5.
[160] Reginald Smith Brindle, 'The Composer's Problems', *Guitar Review*, 83/Fall (1990), 25-30.

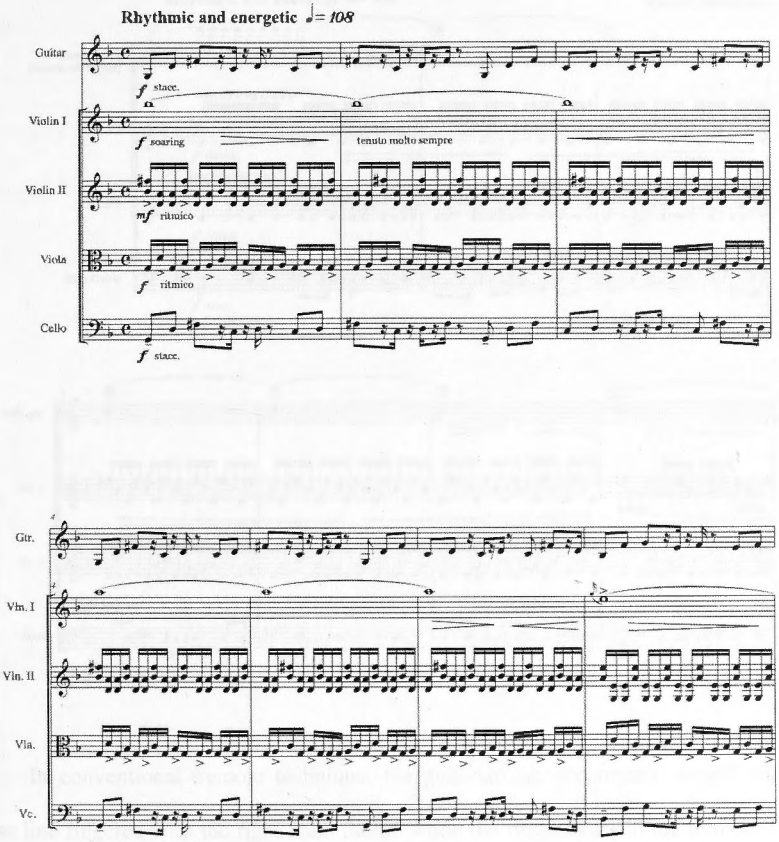
3.1.1 Fingering and Interlinear Independence

Combining melodic and bass lines on one guitar

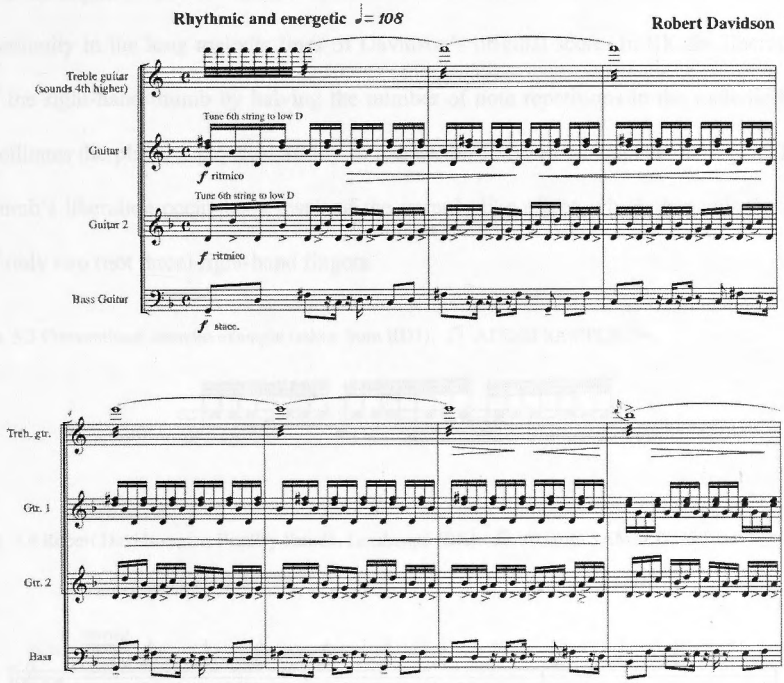
RD1 is scored for one guitar, two violins, one viola and one cello. Preliminary sketches for the arrangement for two guitars made clear the possibility in many instances of maintaining the original guitar part from RD1 in combination with a re-scored quartet part that would be realised on one guitar. It frequently occurred, however, that the original guitar part in RD1 would have to be combined with bass lines in order to facilitate the accompanying guitar part. This was made feasible in instances where the guitar part in RD1 was monolinear, in which case carefully considered fingering could facilitate the realisation of both melodic and bass lines concurrently on one guitar.

The initial statement of the work serves as a useful example of this arrangement technique. In RD1, the melodic line is given to the first violin in long notes of 12-beat durations [Ex. 3.1]. Davidson's own adaptation of this line for guitar may be seen in his arrangement for guitar quartet (RD2), where the treble guitar realises this melodic line using the *tremolando* technique [Ex. 3.2]. This technique employs one finger of the right hand (usually the index finger) in the rapid strumming of a string in alternating upwards and downwards directions. This rapid succession of repeating notes goes some way to countering the inevitable delay characteristics of the guitar and creating the illusion of sonic continuity.

Ex. 3.1 Robert Davidson, *Landscape* (RD1), mm. 1-7. ♫ AUDIO SAMPLE: 72 (Karin Schaupp and *Ensemble 24*).



Ex. 3.2 Robert Davidson, *Landscape* (RD2). ♫ AUDIO SAMPLE: 73 (Melbourne Guitar Quartet).

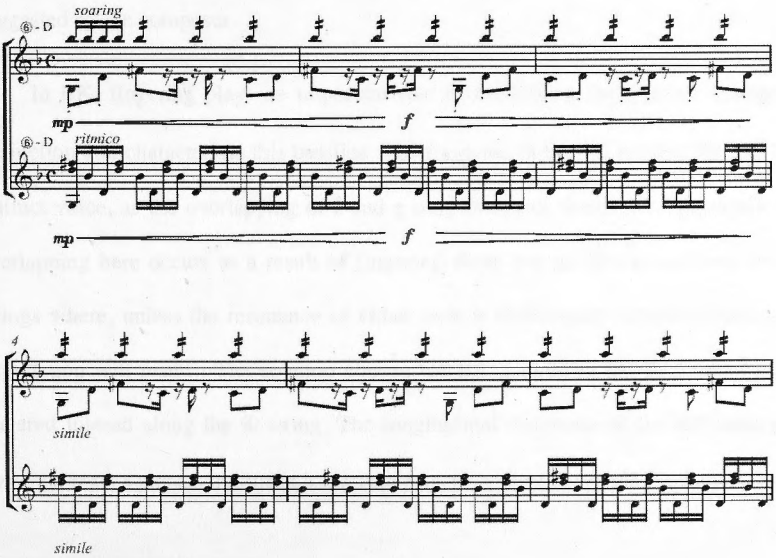


In conventional tremolo technique, the guitarist can accompany herself with a bass line fingered with the right-hand thumb while the fingers sustain the tremolo line. This technique usually requires a consistent number of note repetitions per metrical subdivision in the tremolo voice, and a mostly unchanging rhythm in the bass (See Ex. 3.3). The challenge of combining on one guitar Davidson's first violin melody with the highly syncopated bass line necessitates the compromisation of this conventional tremolo technique. This is due to the practical difficulties arising from the high degree of independence against the upper melodic line asserted by the rhythmically syncopated bass part.

Ex. 3.4 from BK shows a regular semiquaver pattern for the upper melodic line while the syncopated bass part remains rhythmically unchanged from RD1 and RD2. The semiquaver pattern maintains to a certain extent the tremolo-like effect of continuity in the long melodic lines of Davidson's original score. In BK the liberation of the right-hand thumb by halving the number of note repetitions in the melodic line facilitates the player's physical ability to realise the complex syncopated bass part. The thumb's liberation occurs as a result of the tremolo-like effect, which demands the use of only two (not three) right-hand fingers.

Ex. 3.3 Conventional tremolo example (taken from RD1). ♫ AUDIO SAMPLE: 74.

Ex. 3.4 Robert Davidson, arr. Bradley Kunda, *Landscape* (BK). ♫ AUDIO SAMPLE: 75.



In this opening statement, new challenges for left-hand fingering subsequently arise from the combination of melodic and bass lines on one guitar. Fingering in the assertion of interlinear independence becomes relevant if the bass line is to maintain its monolinear characteristics. The independence of the bass line against the melody is affirmed in the composer's own characterisation of this passage: 'the melody is slightly more prominent for me, though only a little. The bassline matters a lot, which probably reflects my bass-playing background.'[161] Articulation is an important factor in maintaining the independence of this line, which is specified as staccato in both RD1 and RD2. Davidson's clarification of this staccato indication is relevant here in confirming that articulative variety (and not necessarily a consistent shortening of each note value) is more characteristic of this passage: 'the downbeat is best a bit longer (as marked by the tenuto articulation). Other notes will subtly vary in articulation – e.g. It's likely the last two notes in the first bar will be a little longer.'[162] The independence of this bass line is asserted more greatly by the subtle variation of staccato articulation suggested by the composer.

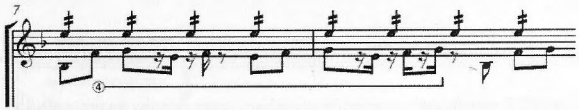
In BK, fingering plays an important role in facilitating the type of articulative distinction that characterises this bassline. The fingering in Ex. 3.5 renders the low **B♭** a distinct voice, as the overlapping of **f** and **g** only increases their interdependence (the overlapping here occurs as a result of fingering these two pitches across two distinct strings where, unless the resonance of either note is deliberately stopped, legatissimo articulation will result). The solution chosen for BK (shown in Ex. 3.6) sees **f** and **g** fingered instead along the ④ string. The longitudinal distention of the left hand over five frets makes physically difficult the first finger's ability to sustain the low **B♭**, while

[161] Robert Davidson, 'Answers to Landscape questions' [email to Bradley Kunda], (22 September 2012) <r.davidson2@uq.edu.au>, accessed 22 September 2012.
[162] Ibid.

the sonorities of **e**, **f** and **g** are all prevented from overlapping as a result of being fingered along the same string. In this way, a staccato articulation for the bass line naturally arises from the fingering. Combined with the timbral homogeneity effected by the exclusive use of only the metal-wound strings, this articulation serves to render the lower part distinct and strongly independent against the upper melodic voice.

Ex. 3.5 Robert Davidson, arr. Bradley Kunda, *Landscape* (BK), mm. 7-9. Cross-string fingering. ♫ AUDIO SAMPLE: 76.

Ex. 3.6 Robert Davidson, arr. Bradley Kunda, *Landscape* (BK), mm. 7-8. ♫ AUDIO SAMPLE: 77.

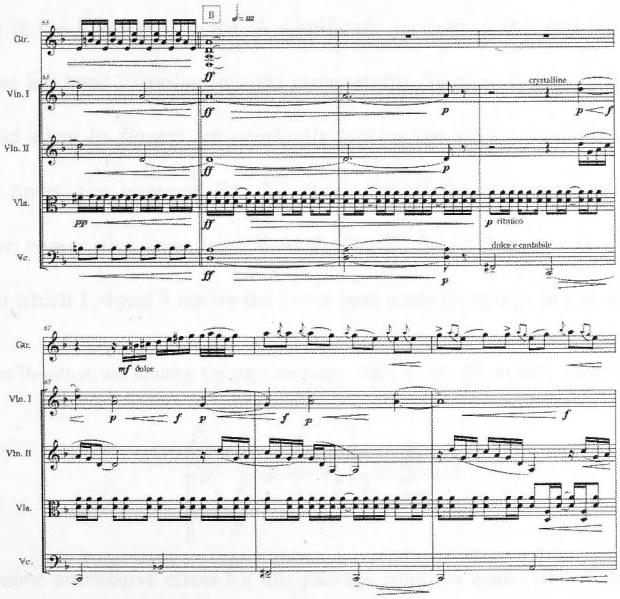


The technique of combining bass and melodic lines on one guitar is seen again in the section that follows the introduction of *Landscape*. Marked "A" in BK and "B" in RD1 (See Ex. 3.7), this section of the duet arrangement takes the original melody (given to the guitar in RD1) and combines it with the cello part [Ex. 3.8]. Registral displacement between the melody and bass lines gives rise to issues for left-hand fingering in their amalgamation on one guitar. The characteristic descending augmented fourth **f♯-C** shown in m. 41 of Ex. 3.8 would have had to be scored an octave lower in BK to maintain the registral relationship with the following **A** in m. 42.[163] The impracticability of this in guitar performance arises from not having a low **C** on the ⑥

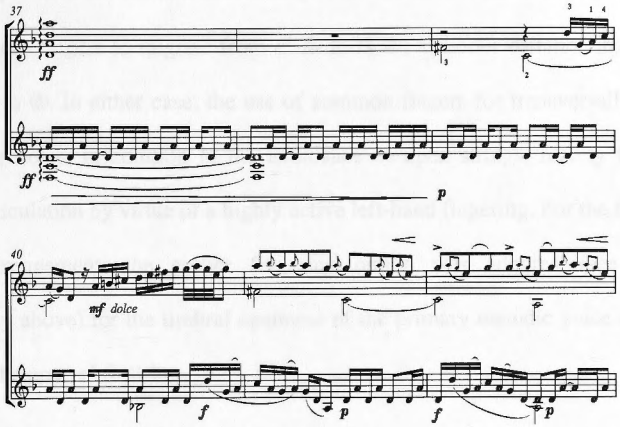
[163] The original registral relationship from RD1 may be seen in Ex. 3.7, mm. 68-9; **C** *ascends* to **A**.

string. **f♯** is chosen instead of the lower octave **F♯** to preserve the descending augmented fourth interval. The result of this, however, is that the registral relationship with the subsequent **A** is affected. **A**, along with the subsequent bass pitches, could be notated an octave higher to compensate for this, but the registral space between melody and bass would be radically diminished, which in turn would greatly restrict the independence of the two voices. Instead, the technical advantage of utilising the open **A** ⑤ and **d** ④ strings becomes available in BK's compromise of RD1's registral relationships. The result is a much more favourable bass sonority on the guitar that takes advantage of the instrument's lower strings, while preserving sufficient registral space between the bass and melodic lines to maintain their independence.

Ex. 3.7 Robert Davidson, *Landscape* (RD1), mm. 63-69. ♫ AUDIO SAMPLE: 78 (Karin Schaupp and *Ensemble 24*).



Ex. 3.8 Robert Davidson, arr. Bradley Kunda, *Landscape* (BK), mm. 37-42. ♫ AUDIO SAMPLE: 79.



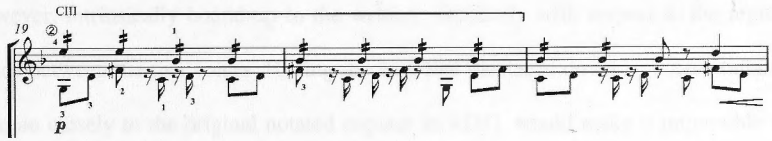
Issues of mechanism and technique underlie the above considerations to a large extent. A critical factor in the introduction of BK is the fingering of each voice to sustain an uninterrupted succession of melodic notes while maintaining a staccato articulation in the lower bass voice. A significant decision to this end was to write a highly active left-hand fingering into the arrangement. Staccato is greatly facilitated by the left hand when its fingers are constantly leaving the strings in order to reach the subsequent notes. For instance, Ex. 3.9 shows the 4th finger transversally displaced between two consecutive notes from ⑥ to ⑤. The 2nd finger then acts as a pivot finger on ③, about which 1, 4 and 3 realise the lower bass notes on strings ⑤ and ④.

Ex. 3.9 Robert Davidson, arr. Bradley Kunda, *Landscape* (BK), m. 19. ♫ AUDIO SAMPLE: 80.

The same articulative effect for this passage could be achieved with the fingering shown in Ex. 3.10. Here, a barré is employed on the 3rd fret to allow the melodic **b♭**, along with the bass note **c** to be realised with the 1st finger alone. The 3rd finger, instead

of the 4th, leaps from **G** ⑥ to **d** ⑤, and the 2nd finger is able to quickly leave the **f♯** on ④ in order to preserve the staccato articulation. This version has the advantage of allowing the right-hand fingers to migrate from **e'** ② to **b♭** ③, a shorter distance than from the open **e'** ① to ③. In either case, the use of common fingers for transversally-displaced consecutive notes, in addition to the avoidance of open strings, readily facilitates a staccato articulation by virtue of a highly active left-hand fingering. For the final edition of this arrangement, the earlier fingering option was adopted (see paragraph immediately above) for the timbral openness of the primary melodic voice afforded by the use of the open **e'** ① string.

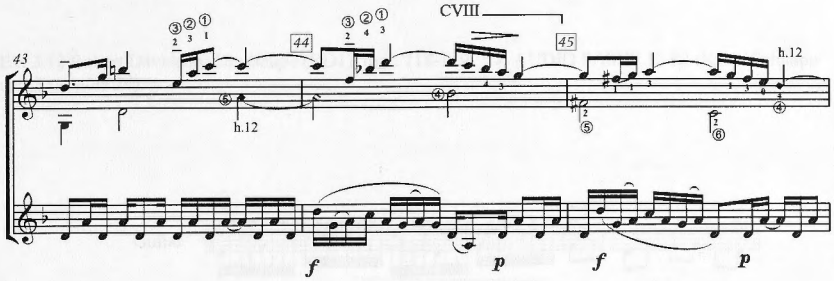
Ex. 3.10 Robert Davidson, arr. Bradley Kunda, *Landscape* (BK), m. 19. Alternative fingering.



In the "A" section of BK, important issues for left-hand mechanism include the selection of fingerings that enable the sustaining of notated rhythmic note values within each voice. In Ex. 3.11, sustaining the melodic **c''** against the subsequent lower voice **a** in m. 43 is aided by the use of the open string harmonic on ⑤, which in turn frees the left-hand fingers to adopt the required position for the following melodic notes **f'-b♭'-d''** in m. 44. Sustaining this top **d''** against the subsequent lower voice **b♭** requires the fingering of the bass note on ④, using a barré to facilitate the melodic notes that follow. In m. 45, a slide from **f♯-g** using the 1st finger is presented as a solution to the issue of not having available the 2nd finger, which is of necessity occupied on the bass **f♯**. The group of notes that follows at the end of this measure sees the melody fingered across

the top four strings. Here again, the left-hand fingering has been determined by the need to sustain the melodic and bass lines as they rhythmically overlap one another.

Ex. 3.11 Robert Davidson, arr. Bradley Kunda, *Landscape* (BK), mm. 43-45. ♫ AUDIO SAMPLE: 81.



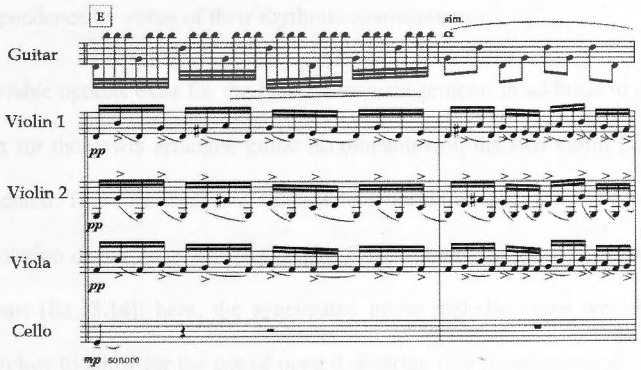
The fingering solutions suggested in the above paragraph are not the only means of achieving the notated rhythmic values suggested in the score. The fingering is, however, intrinsically bound-up in the writing, especially with respect to the registral space between the two voices. Having the bass line displaced down an octave (aligning it more closely to the original notated register in RD1), would make it impossible at a physical level to render the rhythmic values of each voice accurately. For example, were the open **A** instead used in m. 43, and the following bass notes scored an octave lower, then the durations of the upper melodic **d''** and **g'** would of necessity be compromised (due to the large longitudinal extension required of the left hand). In this sense, the relationship between the fingering and the arrangement itself is critical to preserving some of the defining characteristics of this passage.

Register, contrarhythms, unison duplications and open strings

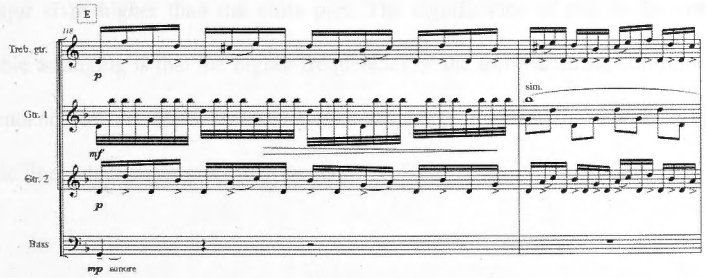
The tremolo section in *Landscape* (marked "D" in BK and "E" in RD1) makes use of the guitar's tremolo technique to create a seemingly uninterrupted rendering of the melodic line against a blurred backdrop of heavily syncopated semiquavers from the strings [Ex. 3.12]. In RD2, the string accompaniment is reduced by one part: the treble

guitar takes the pedal note of violin 2 and the upper melodic note of violin 1,[164] while guitar 2 takes the entirety of the viola part [Ex. 3.13[165]]. In BK, the viola part also forms the basis for the accompanying texture, while the second guitar realises the tremolo part as written in RD1 and RD2.

Ex. 3.12 Robert Davidson, *Landscape* (RD1), mm. 118-119. ♫ AUDIO SAMPLE: 82 (Karin Schaupp and *Ensemble 24*).



Ex. 3.13 Robert Davidson, *Landscape* (RD2), mm. 118-119. ♫ AUDIO SAMPLE: 83 (Melbourne Guitar Quartet).



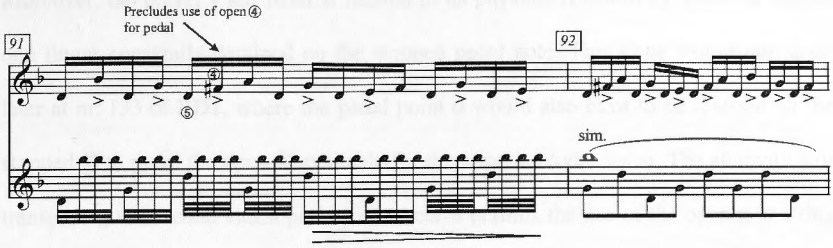
[164] N.B. The treble guitar is a transposing instrument, sounding a fourth higher than it is notated.

[165] In Audio Sample 83, the reader will note that the performers do not use the tremolo technique as notated in Davidson's score, adopting instead the *tremolando* technique that uses only one right-hand finger. This very strong *tremolando* effect allows the upper melodic line to be heard more distinctly over the accompanying parts, despite their intersecting with the melody's registral space.

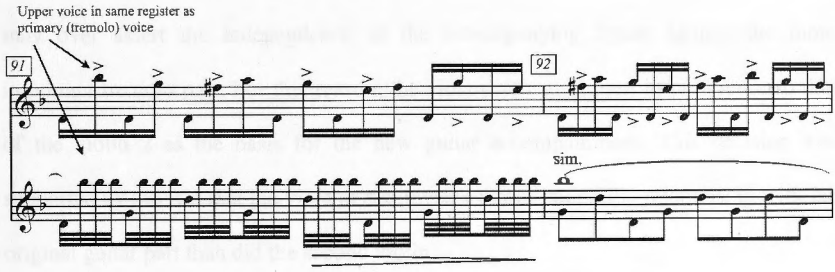
Various issues that have implications for fingering formed the basis for the decision to use the viola part as the primary material for the accompaniment in BK. Of cardinal importance was the need to preserve the prominence of the tremolo voice, which carries the main melodic theme of the work. An arrangement of the accompanying string parts for one guitar needed required to capture the characteristic syncopated essence found in RD1 without distracting from this main theme. This was made difficult by the highly syncopated nature of the accompanying lines, which assert a strong independence by virtue of their rhythmic characteristics.

Three viable options exist for the guitar duet arrangement: in addition to utilising the viola part for the newly-arranged guitar accompaniment, the two violin parts may also be considered. This case study will discuss each option separately before justifying the chosen solution of the viola part [Ex. 3.18]. Considering first the adaptation of the first violin part [Ex. 3.14]: here, the syncopated upper melodic voice would extend registrally too low to allow for the use of open **d** ④ string (the significance of this open string is discussed below). Transposing this line up one octave [See Ex. 3.15] sees the registral ceiling of this passage occurring at **b'** until m. 109, after which it extends to **f♯''** - a major sixth higher than the viola part. The significance of this in the context of ensemble arranging is that the higher frequencies of the top **e** ① string contribute to the independence of this upper melodic voice, placing it in competition with the primary melodic line, which occurs in much the same register.

Ex. 3.14 Robert Davidson, arr. Bradley Kunda, *Landscape* (BK), tremolo section (first 2 measures). Violin 1 used for accompaniment. ♫ AUDIO SAMPLE: 84.



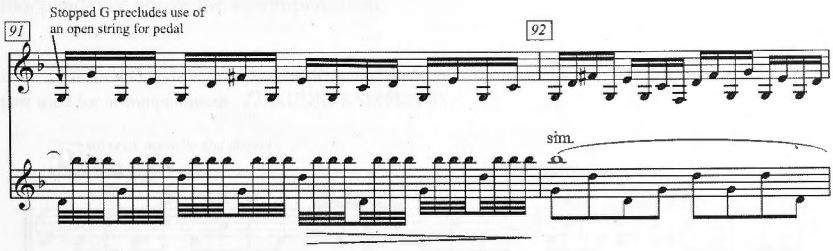
Ex. 3.15 Robert Davidson, arr. Bradley Kunda, *Landscape* (BK), tremolo section (first 2 measures). Violin 1, upper line transposed up one octave. ♫ AUDIO SAMPLE: 85.



The second violin part may prove more viable in the guitar duet arrangement than the part of the first violin. Played at its composed register [Ex. 3.16], neither the pedal point nor the syncopated melodic line interfere registrally with the primary melodic voice in the tremolo. An issue of fingering becomes relevant here, however, because the pedal point occurs at the stopped **G** on ⑥, requiring one left-hand finger to be constantly employed to realise this note. The issue arising from this is pertinent both to the sonority of this passage, as well as the player's mechanism and technique. With respect to the former issue, the sonority of the accompanying instrument is limited by the use of the stopped, instead of an open string. As has been described earlier in this study, this is

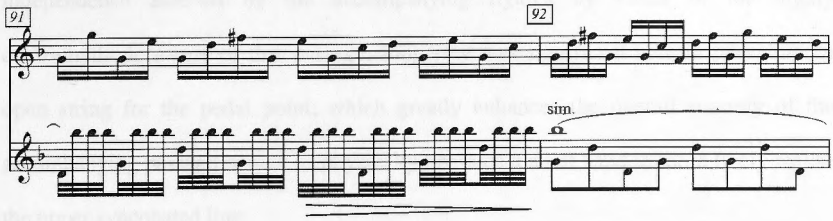
due to the fact that open strings resonate with more partials than stopped strings.[166] Moreover, the player's left hand is limited in its physical freedom by virtue of having one finger constantly detained on the stopped pedal note. This issue would also arise later at m. 133 of RD1, where the pedal point **d** would also have to be realised on the stopped ⑤ to make the open ④ available for the upper melodic voice. The alternative of transposing the second violin part up one octave permits the use of the open **g** ③ string for the pedal point, making it a more viable alternative [Ex. 3.17]. Nevertheless, while the registral space occupied by the upper voice does not interfere with the primary melodic (tremolo) voice any more than does its viola counterpart, the range does require considerable use of the open **e'** ① string. The high partials characteristic of this string may over assert the independence of the accompanying figure against the more important tremolo part. For this reason, the viola part was chosen in preference to that of the violin 2 as the basis for the new guitar accompaniment. This decision was supported by the fact that the viola part enjoyed a closer intervallic relationship with the original guitar part than did the second violin.

Ex. 3.16 Robert Davidson, arr. Bradley Kunda, *Landscape* (BK), tremolo section (first 2 measures). Violin 2 used for accompaniment. ♫ AUDIO SAMPLE: 86.



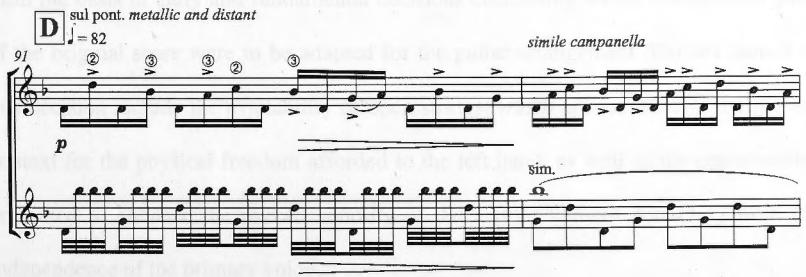
[166] See above, n. 146.

Ex. 3.17 Robert Davidson, arr. Bradley Kunda, *Landscape* (BK), tremolo section (first 2 measures). Violin 2, transposed up one octave. ♫ AUDIO SAMPLE: 87.



Fingering played a decisive role in the choice to adapt the viola part for the new guitar arrangement [Ex. 3.18]. The register of the newly arranged viola part was one factor considered to limit its independence in the overall texture. Not exceeding 14 semitones at any given time, the relatively constrained registral ceiling does not exceed **e'** from m. 91-m. 109, after which point the highest note is **a'**. In this pitch region and at a low dynamic level, it is possible to render a relatively innocuous background texture without featuring any high notes too prominently. Perhaps most significantly, the open **d** ④ string can be used for the pedal point, freeing the left hand from having to pivot on any one finger to sustain the lower line. Registrally, there is very little interference with the upper melodic voice, allowing the tremolo line to hover with sufficient independence above the accompaniment.

Ex. 3.18 Robert Davidson, arr. Bradley Kunda, *Landscape* (BK), tremolo section (first 2 measures). Viola part used for accompaniment. ♫ AUDIO SAMPLE: 88.



In this example, register was the primary issue in my decision to use the viola part as the basis for the guitar accompaniment. This was in order to compensate for the independence asserted by the accompanying figures by virtue of the highly contrarhythmic nature of this passage. Fingering was significant here in providing an open string for the pedal point, which greatly enhances the overall sonority of the accompanying passage as well as physically liberates the left hand to more freely realise the upper syncopated line.

Summary

The assertion of interlinear independence is in this case study of primary significance when considering the process of arranging guitar music. Central to this issue is the role played by guitar fingering. Guitar fingering and the resulting sonority is often the principal factor when making decisions of registral displacement and the use of open, or stopped, strings, both of which are critical to the assertion of interlinear independence in multilinear textures.

In the arrangement process, the decision to registrally displace notes or phrases arises from the need to preserve interlinear independence. Registral displacement is primarily employed to maintain sufficient registral space between primary and secondary, or accompanying, voices. In the present case study, fingering considerations form the basis of early and fundamental decisions concerning which instrumental parts of the original score were to be adapted for the guitar arrangement. Related factors in this decision include the availability of open strings, which are favoured in the present context for the physical freedom afforded to the left hand, as well as the opportunities presented to enhance the overall sonority of the texture without detracting from the independence of the primary voice.

The decision to employ either open or stopped strings also plays a critical role in foreground issues concerning in particular, the necessity to sustain written durational values and articulative properties for individual notes and phrases. In both these instances, whether it be to preserve the full durational values of notes when realising more than one voice simultaneously on one guitar, or to find a highly active fingering to facilitate a consistent staccato articulation, fingering is shown to be decisive in the application of these factors in the assertion of interlinear independence.

With respect to all of these considerations, guitar fingering is seen to be intrinsically bound up in the writing process of the arrangement or composition. Guitar fingering, in particular, informs decisions regarding register, articulation and rhythm, where open and stopped strings play a vital role in creating individual guitar parts that both facilitate the player's physical freedom while preserving the essential qualitative attributes of the work as evidenced from the original score. The maintenance of interlinear independence is crucial to this end, especially in the present case study where the work is so heavily characterised by its textural properties.

3.2 Fingering and Sonority

Landscape is striking in its evidence of the significant and defining role sonority plays in Davidson's compositional style. For Davidson:

> Sonority is a very big priority in writing for guitar, and is always in mind when I imagine the music's final sound (I also spend a lot of time amateurly playing through the music myself on guitar to ensure the sonority works). I originally composed the piece for guitar and string quartet, and took a lot of pains to test the guitar part thoroughly for sonority. The understanding of the performers is expected – I work with performers who can understand that not all notes are going to work if left to ring (e.g. The C notes in the opening passage, which are clearly dissonant against the chord notes – the whole opening passage is marked staccato in order to avoid too

much resonance, as this would muddy the texture). I use open strings as much as possible to maximise resonance.[167]

The string writing in RD1 is full of unison and octave doublings,[168] contrarhythmic chordal patterns,[169] extensive use of open 5th intervals[170] and the superimposition of long legato lines over busy rhythmic accompaniments.[171] To no small extent does the instrumentation of string quartet and guitar contribute to the composer's ability to create rich and sonorous textures, where the accumulation of density-number and wide registral spacings are greatly facilitated by the range of independent instruments.

Capturing this heavily sonority-driven texture in an arrangement for a considerably restricted ensemble is the main problem for this guitar duet arrangement. As this study has established, however, guitar fingering plays a significant role in affecting the sonorous characteristics of the instrument. To this end, the aesthetic principle of sonorous augmentation has informed many of the fingering decisions in this work. For the purposes of the present study, the term sonorous augmentation denotes an increase in concurrently or simultaneously resonating sounds. In some contexts, this may be achieved through an increase in density-number. For Berry though, sonority includes not only textural attributes (including doublings), but also 'coloration (including *articulation* and intensity of *dynamics*).'[172] Dynamics, or the loudness of a note, play an important role in sonority on the guitar. Taylor suggests that 'the loudness

---

[167] Robert Davidson, 'Answers to Landscape questions' [email to Bradley Kunda], (22 September 2012) <r.davidson2@uq.edu.au>, accessed 22 September 2012.
[168] Robert Davidson, *Landscape* (facsimile, 2000), 10, m. 106 ff.
[169] Ibid. 17, m. 192 ff.
[170] Ibid.
[171] Ibid. 1.
[172] Berry, *Structural Functions in Music*, 192. Emphasis added.

of a note might depend on its *quality*...if a note is to ring out loud and clear on the guitar, it must be rich in partials covering a wide frequency range.'[173]

This revelation has implications for the impact of doublings and density-number on the sonority of the guitar. As will be revealed in the following analyses, chord voicings and arpeggios for example, tend to generate a more sonorous response from the guitar when *fewer* notes are used in combination with open strings, as opposed to a greater number of stopped notes. This is partly due to the fact that open strings plucked at approximately 1/5 of the length of the string (closer to the bridge) create the most even distribution of energy among the modes, giving the impression of loudness in the resulting sound.[174] By contrast, stopped notes shorten the vibrating length of the string, which may in turn result in the reduction of energy distributed among the modes (and a reduction in resulting loudness).

As has been demonstrated in the previous chapters of this study, fingering plays a significant role in determining density-number and the use of open and stopped strings in guitar performance. The primary issue in the present section is the use of guitar fingering in selected passages to augment the instrument's sonority as much as possible for the purposes of capturing the highly sonorous essence of Davidson's original conception of *Landscape* in the new arrangement for two guitars.

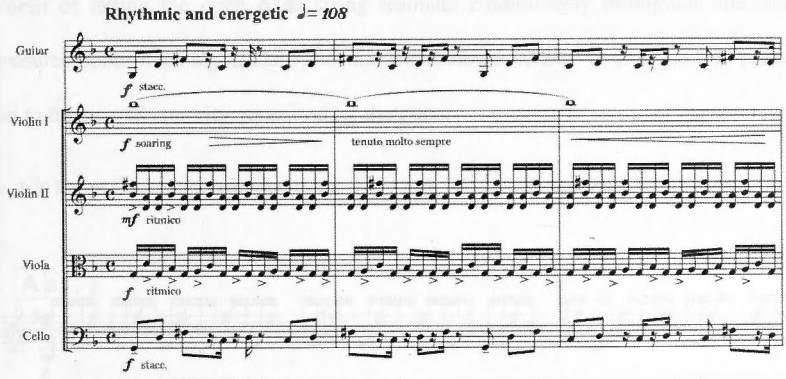
3.2.1 Arpeggiation and Repeated Chords

Bowed string instruments are capable of realising arpeggiated and chordal passages in a different manner to that which can be more readily achieved on the guitar. This rather enigmatic statement may perhaps be better explained by way of example, for which we will turn again to the introduction of *Landscape*. In RD1, the second violin

[173] John Taylor, *Tone Production on the Classical Guitar* (London: Musical News Services Ltd., 1978), 14.
[174] Ibid. 25.

provides arpeggiated and chordal accompaniment in a series of alternating 5th intervals [Ex. 3.19]. The mesmerising sonic effect of this technique is created in part by the rhythmic juxtaposition of groups of three semiquavers in common time, and in part by the interplay of stopped notes and the open **d** and **a** strings in this violin part. This latter factor allows the violinist to employ alternating bow directions on the same two adjacent strings, while the instrument benefits from the open resonance of the 3rd and 2nd strings for two consecutive ♪ beats.

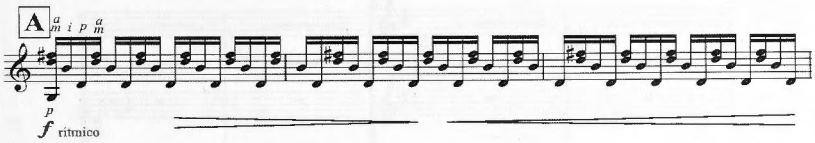
Ex. 3.19 Robert Davidson, *Landscape* (RD1), mm. 1-3. ♫ AUDIO SAMPLE: 89 (Karin Schaupp and *Ensemble 24*).



An unmodified translation of this part for guitar would be well within the realm of physical playability. For reasons associated with guitar fingering, however, the same mesmerising sonic effect would be lost. First and foremost, the standard tuning of the guitar (which has no open string **a**; only **A** an octave lower) results in the work's opening arpeggiated flat-6 chord taking advantage of only one open string (**d** ④). More significantly, however, is the rhythmic effect arising from the need to pluck consecutive chords on the same string. At the composer's designated tempo of ♩ = 108, the guitarist's ability to pluck two chords of two notes in rapid succession on the same strings does not allow sufficient time for the instrument to reach its full sonorous

potential. Fortunately, the composer has provided his own adaptation for guitar in the section marked "A" in RD1 [Ex. 3.20]. Here, the guitar takes the role of chordal accompanist while violin 2 engages contrapuntally with the first violin's main theme. Sensibly, Davidson has re-configured the second violin's arpeggiated chordal sequence so that the guitarist avoids plucking two consecutive chords or notes on the same string. Instead, the newly-configured arpeggiated chordal pattern allows the guitarist to use *p*, *i*, *m*, and *a* in such alternating succession that each finger has the opportunity to relax its tension before re-plucking [See Ex. 3.20]. While this critical aspect of the player's mechanism and technique greatly serves the rhythmic fluency of this passage, the added benefit of letting the open **d** ④ string resonate continuously throughout the first 6 measures contributes significantly to the accumulated density-number of this passage, and to the overall sonority generated by the guitar.

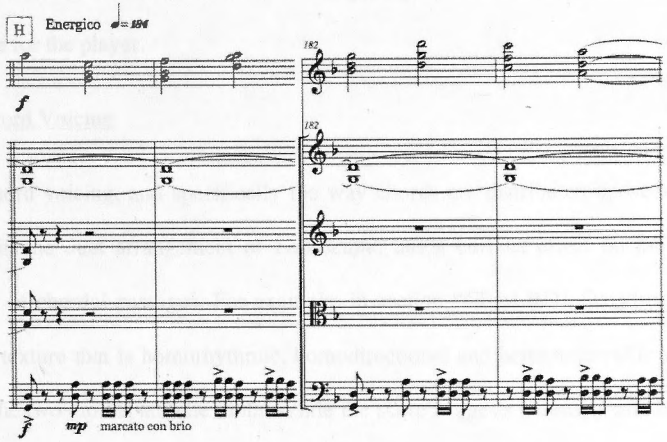
Ex. 3.20 Robert Davidson, *Landscape* (RD1), mm. 37-39. ♫ AUDIO SAMPLE: 90.



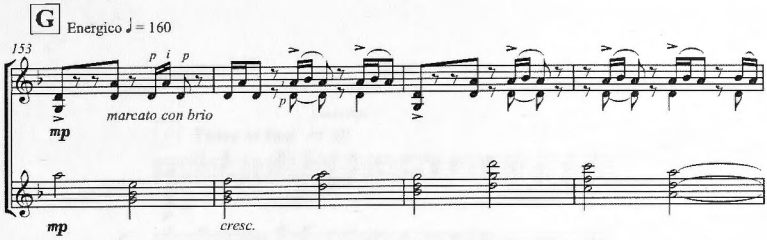
This arrangement technique of re-configuring consecutive chords has been adopted again for the accompaniment in the guitar duo arrangement. In Davidson's original quintet at "H" [Ex. 3.21], the cello provides a strong, heavily syncopated chordal accompaniment employing the composer's characteristic 5th interval. Readily achieved by alternating bow strokes across the same two adjacent strings, this effect would again be lost in a guitar arrangement if left un-modified. The suggestion shown in Ex. 3.22 sees the cello's **D**-**A** chord transposed up one octave with each note played separately, while maintaining Davidson's original ♪♪♪ rhythmic structure. The cello's

D-B♭ chord undergoes a different transformation in the guitar duet arrangement. In this case, a slur from **a-b♭** is employed on the ③ string, while the initial ♪ of the group comprises two notes plucked simultaneously, thus maintaining to a limited extent the chordal attributes of RD1. This reconfiguration again benefits the sonority of the passage by letting the open **d** ④ string ring for longer than would otherwise be facilitated were it to be re-plucked in accordance with the notated rhythm of RD1. The player also benefits physically from the opportunity to use consecutive right-hand fingers across adjacent strings, rather than the same right-hand fingers in repetition on the same strings.

Ex. 3.21 Robert Davidson, *Landscape* (RD1), mm. 180-183. ♫ AUDIO SAMPLE: 91 (Karin Schaupp and *Ensemble 24*).



Ex. 3.22 Robert Davidson, arr. Bradley Kunda, *Landscape* (BK), m. 153-154. ♫ AUDIO SAMPLE: 92.

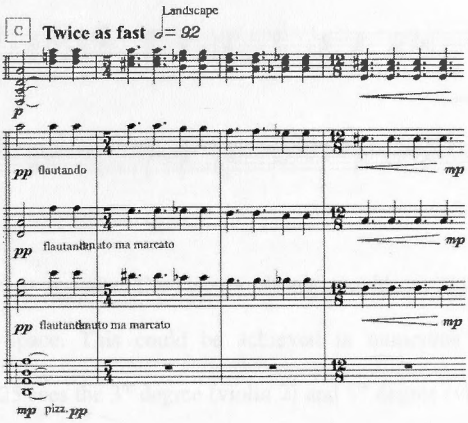


In this instance, guitar fingering is seen to be influential in an arrangement decision that affects not only the instrument's sonority but also the player's mechanism and technique. The reconfiguration of rapidly repeating chords, an effect readily achievable on a bowed string instrument, to one that favours the physical practicability of using alternating fingers instead of repeating fingers, makes better use of the guitar's peculiar sonorous characteristics. In this way, it provides a more idiomatic fingering sequence for the player.

3.2.2 Chord Voicing

Chord voicing, and specifically the way chords are distributed between the two guitars in the duet arrangement of *Landscape*, has a curious effect on the resultant sonority of chordal passages. For example, in section "C" of RD1 Davidson writes a chordal texture that is homorhythmic, homodirectional and heterointervallic across the guitar, the two violins and the viola. While the score suggests a density-number of 6, it is important to observe the effect of unison doublings, where the guitar part duplicates the triads created in the string parts [Ex. 3.23]. Textural diversification is significantly limited in this example. The extent to which sonority is an attribute of this passage is instead due perhaps to the timbral and articulative contrast between the guitar and the bowed string instruments.

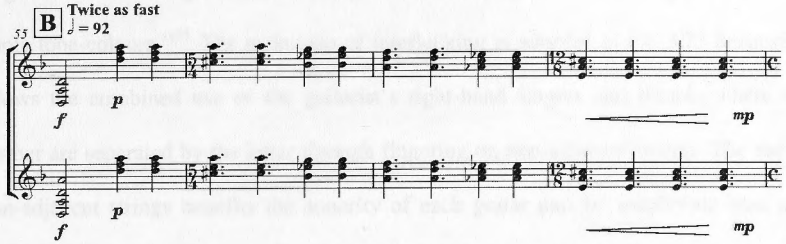
Ex. 3.23 Robert Davidson, *Landscape* (RD1), mm. 82-85. ♫ AUDIO SAMPLE: 93 (Karin Schaupp and *Ensemble 24*).



Several options are available to the arranger in transcribing this passage for guitar duet. The first and perhaps most obvious choice may be to re-create the triadic unison duplications per RD1 between the two guitars [Ex. 3.24]. While this option is more closely aligned with the original notated score, the overall sonorous effect is arguably compromised due perhaps to the absence of legato articulation and timbral contrast formerly provided by the strings. Berry's suggestion that articulation is a factor in sonority[175] is worth remembering here, as is Taylor's observation that two instruments playing in unison do not necessary correlate with a doubling of volume.[176] The unison doubling between two guitars appears somewhat redundant given the relatively nominal increase in sonority.

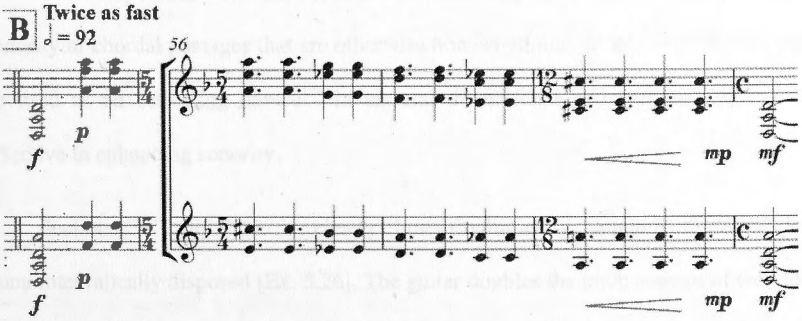
[175] Berry, *Structural Functions in Music*, 192.
[176] Taylor, *Tone Production on the Classical Guitar*, 14.

Ex. 3.24 Robert Davidson, arr. Bradley Kunda, *Landscape* (BK), m. 153-154. ♫ AUDIO SAMPLE: 94.



Another way to re-voice Davidson's chords would see the expansion of the texture's registral space. This could be achieved in numerous ways. One option presented in Ex. 3.25 sees the 3rd degree (violin 2) and 5th degree (violin 1) of the chord doubled at the lower octave. While perhaps not a conventional doubling, the effect does give each guitar the opportunity to generate desirable internal resonances throughout the passage. In this instance, fingering is influential in the augmentation of internal resonances, especially by way of the chord voicing.

Ex. 3.25 Robert Davidson, arr. Bradley Kunda, *Landscape* (BK), mm. 55-61. ♫ AUDIO SAMPLE: 95.



The approach to chord voicing seen in Ex. 3.25 makes use of the orchestration technique of interlocking. Chordal interlocking in string arrangements is suggested by English musician King Palmer to ensure 'a more homogeneous blending of Violin and Viola tone-colours.'[177] The technique of interlocking is adopted in Ex. 3.25 because it allows the combined use of the guitarist's right-hand fingers and thumb, where the former are separated by the latter through fingering on non-adjacent strings. The use of non-adjacent strings benefits the sonority of each guitar part by employing bass and treble strings in each guitar, rather than designating treble strings to guitar 1 and bass strings to guitar 2 for example (or alternatively having both guitars play in unison). Sonority is augmented with this technique by way of additional sympathetic resonances occurring within each guitar part that arise due to the combination of treble and bass strings. Sonority is further enhanced with the power afforded by each guitarist's use of the right-hand thumb, a digit that naturally facilitates substantial volume by virtue of its plucking force. This aspect demonstrates the influence of the guitarist's mechanism and technique on the sonority of chordal passages.

3.2.3 Contrarhythms

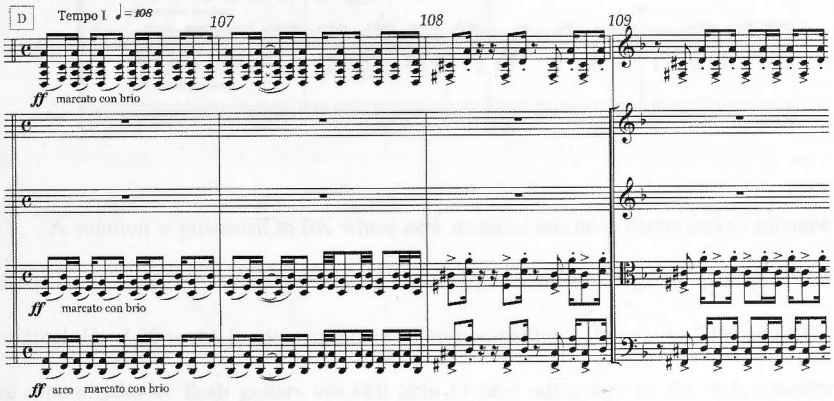
The composition of contrarhythmic material may be useful in augmenting the sonority of chordal passages that are otherwise homorhythmic. In this way, rhythm may be used as an activating device[178] in textural diversification, which in turn can be effective in enhancing sonority.

Section "D" in RD1 is clearly homorhythmically, homodirectionally and homointervalically disposed [Ex. 3.26]. The guitar doubles the pitch content of the viola and cello, which are themselves doubled at the octave. The effect of this passage may be

[177] King Palmer, *Teach Yourself Orchestration* (London: The English Universities Press Ltd, 1964), 59.
[178] Berry, *Structural Functions in Music*, 222.

described as possessing a powerful sound mass with a strong rhythmic character. The sonority of this passage benefits from the octave doublings between the registrally lowest two instruments in the ensemble, as well as the articulative and timbral distinction between bowed and plucked instruments.

Ex. 3.26 Robert Davidson, *Landscape* (RD1), mm. 106-109. ♫ AUDIO SAMPLE: 96 (Karin Schaupp and *Ensemble 24*).

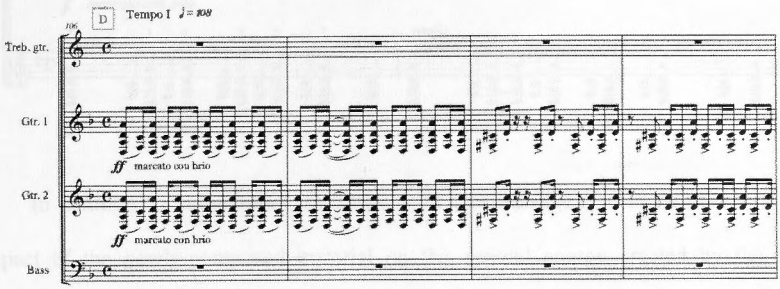


In his guitar quartet arrangement, Davidson duplicates this rhythmic passage at the unison between guitars 1 and 2 [Ex. 3.27]. As demonstrated in the previous section, unison duplications between two of the same instrument often do little to increase sonority or volume.[179] Here, as in the case above, the arrangement for guitars does not benefit from the articulative or timbral interaction of bowed and plucked string instruments present in RD1. While chord re-voicings were used as an alternative to enhancing sonority in the previous section, a re-voicing of the present chordal material would potentially compromise the registral character of the passage (which sits quite low in the instruments' range), as well as the advantage of the guitars using the open ⑥,

[179] See above, n. 146.

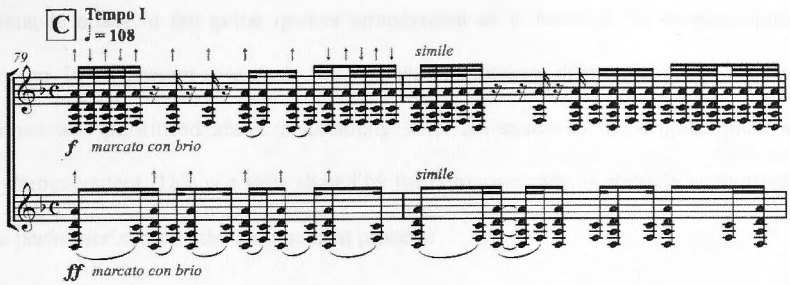
⑤ and ④ strings, all of which contribute in their own way to the sonorous attributes of this passage.

Ex. 3.27 Robert Davidson, *Landscape* (RD2), mm. 82-85. ♫ AUDIO SAMPLE: 97 (Melbourne Guitar Quartet).



A solution is presented in BK where new material has been composed to enhance the passage's sonority while preserving the characteristic low-register quality of the original. Ex. 3.28 is still homointervallic and homodirectional, but unlike RD1 and RD2 is contrarhythmic. Both guitars are still able to take advantage of the rich sonority afforded by the use of the three lowest strings. The guitar 1 part serves to augment this passage's sonority with a highly active and syncopated rhythmic character that allows this section to progress musically to a climactic intensity that contrasts as effectively with the preceding and following sections as does the corresponding part in RD1. Crucially, the *rasgueado* technique of strumming the strings backwards and forwards with a right-hand finger contributes significantly to the effect of climax by enhancing volume and effecting articulative diversification between the preceding and following structural sections.

Ex. 3.28 Robert Davidson, arr. Bradley Kunda, *Landscape* (BK), mm. 52-61. ♫ AUDIO SAMPLE: 98.



In addition to augmenting the sonority of this passage, Davidson observes the impact of the newly-composed material on the general energy created by the two players in performance: 'It's [the newly-composed material is] great – this adds a lot to the music, and is a very effective way to translate the effect of a cello playing very into-the-string sound. It's an imaginative way to add more energy to the texture (taken away somewhat from reducing the instrumentation from 5 to 2 players).'[180]

An important issue that arises from this solution is that of the arranger's role and the degree to which an alteration of the original composition, by way of the addition of new material, may arguably result in an undesirable outcome that falls beyond the scope of an arrangement. In the present case, the primary intention of the arranger was to re-create the experience of musical structural progression and recession that the listener hears in the original quintet version, while at the same time creating guitar parts that took into account the strong influence of fingering on key substantive musical attributes in order to produce an idiomatic arrangement that sounds at home on the instrument. Indeed it is an important tenet of this case study that arranging often involves a certain degree of re-composition in order to create a version of the music that is best adapted its idiomatic realization in a new instrumental setting. In the present example, employing

[180] Robert Davidson, 'Answers to Landscape questions' [email to Bradley Kunda], (22 September 2012) <r.davidson2@uq.edu.au>, accessed 22 September 2012.

unison duplications of the original rhythmic chordal passage does not produce the same climactic effect in the guitar quartet arrangement as is heard in the original quintet version. In the present case study, the listener's experience of musical progression and climax was prioritised above maintaining strict adherence to the original pitch and rhythmic content. This is a view shared by the composer, who is strongly supportive of the performer's role in the arrangement process:

> I am very much in favour of arrangers and performers having their own perspective and invention with any piece of music – actually the constant over-respect for the composer's autograph has gotten quite out of hand in classical music in my opinion – as if we were all carbon-copy covers bands. It's time to revive the idea that performers and arrangers have something to say…What matters is the performance, and how it comes across in a specific performance. If the score impedes that, change it.[181]

The fluid interaction between the preparation of a musical interpretation for performance and the process of writing music for the guitar is a fundamental finding of the present study. Here again, as has been evidenced elsewhere in this dissertation, guitar fingering emerges at the intersection of substantive musical content and performance aesthetic.

3.2.4 Special Effects

When discussing guitar fingering, it is a central tenet of the present study to discuss not only *which* specific fingers may be used to achieve a desired effect, but to also consider *the manner in which* the fingers are used. Abel Carlevaro has established links between the manner of plucking, or right-hand *toques*, and dynamics and timbre.[182] Categorically, special effects may be considered as an extension of the manner in which

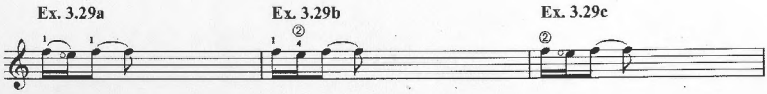
[181] Ibid.
[182] Carlevaro, *School of Guitar*, 50-55.

the fingers can be used in guitar playing. Principles relating to fingering such as for example, interlinear independence and sonority, can be affected by the manner in which the fingers are used. Of all the special fingering effects available to the guitarist such as for example, harmonics, percussion, pizzicato, cross-string ornamentation and tremolando, the guitar duet arrangement of *Landscape* makes effective use of the latter two in enhancing the sonority of the arrangement.

Cross-string ornamentation

Cross-string ornamentation is an often-used device of guitarists in the ornamentation of Baroque music for performance on the modern guitar. Both left- and right-hand fingering play important roles in realising cross-string ornaments. In guitar performance, cross-string ornaments denote circumstances where alternating adjacent pitches are played across adjacent strings, rather than with an ascending or descending slur on one string. The effect is that of hearing both pitches sound simultaneously. When performed rapidly, however, the continued resonances of each pitch combine to enhance the overall sonority of the ornament. Further, each note in the ornament is allowed to speak with equal intensity of attack and volume, an effect difficult to achieve when ornamental notes are slurred (in which case, the slurred note is invariably softer and of a different attack quality than the plucked note). This comparison is demonstrated in Ex. 3.29, which shows a mordent being executed in a more traditional slurred manner [Ex. 3.29a] and using cross-string fingering (two fingerings are shown in Exs. 3.29b and 3.29c).

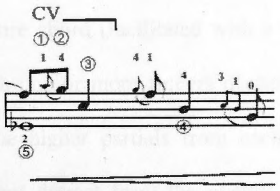
Ex. 3.29 Single-string and cross-string mordents compared. ♫ AUDIO SAMPLE: 99.



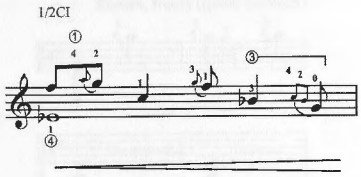
Carefully selected right-hand fingering is critical to the successful execution of cross-string ornaments, where the most rapid alternation of fingers is required to best achieve the intended effect. Further, left-hand fingering also needs careful determination; the availability of one open string can greatly assist in the execution of a cross-string ornament, but where both notes in the ornament require stopping with the left hand, a significant extension of the hand is often required due to the nature of the guitar's tuning.

In the case of the "A" section in the guitar duet arrangement of *Landscape*, the combination of bass and melody on one guitar gave rise to instances that were perfectly favourable for cross-string ornamentation, as opposed to single-string 'slurred' ornamentation. In the last measure of this section for example, the necessity to sustain **e♭** in the bass made it preferable to render the grace-noted melodic **a'** and **g'** across strings ① and ② with the bass note **e♭** on ⑤, allowing the left hand to sustain its comfortable longitudinal extension of 4 frets (one finger per fret) [Ex. 3.30]. The less favourable alternative would see the bass note **e♭** fingered on the ④ string, resulting in an uncomfortable left-hand extension of five frets, and increasing the physical difficulty of executing the necessary slurs [Ex. 3.31].

Ex. 3.30 Robert Davidson, arr. Bradley Kunda, *Landscape* (BK), m. 54. ♫ AUDIO SAMPLE: 100.



Ex. 3.31 Robert Davidson, arr. Bradley Kunda, *Landscape* (BK), m. 54. Alternative fingering. ♫ AUDIO SAMPLE: 101.

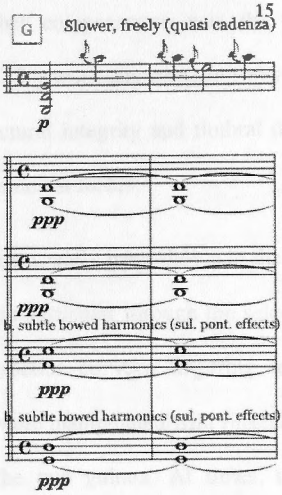


In this case, the decision to include cross-string ornamentation in the arrangement emerged principally out of consideration for mechanism and technique. In practicality, the effect on the sonority of this passage is rather desirable; each note of the ornament is allowed to sustain over the other, creating a rich sonority that is appropriately suited to Davidson's timbrally varied and sonorous work.

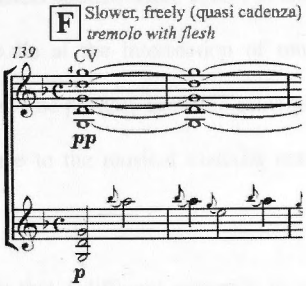
Tremolando

Timbral variance can be further effected by varying the manner of plucking and strumming the strings. In section "G" of RD1, the string instruments sustain a long, uninterrupted perfect 5th interval (**g-d**) to support the 'quasi cadenza' guitar solo [Ex. 3.32]. Tremolando has already been cited in this chapter as an useful technique to create the effect of sustained sounds, which are inherently impossible to achieve on the guitar. In Ex. 3.33, a tremolando technique involving only the flesh of a right-hand finger (without any nail) is employed over a 5-note G minor chord (3rd degree omitted). The left-hand adoption of the entire chord (facilitated with a barré) allows the guitarist to strum freely and rapidly with one or more fingers of the right hand. The use of only flesh suppresses many of the higher partials from each note, creating a warm and discrete sonority that does not detract from the overall emphasis on melody in this passage. The effect constitutes not only a creative and guitaristic representation of the original long-line string passage, but also adds to the varied timbral palette of the arrangement.

Ex. 3.32 Robert Davidson, *Landscape* (RD1), mm. 166-167. ♫ AUDIO SAMPLE: 102.



Ex. 3.33 Robert Davidson, arr. Bradley Kunda, *Landscape* (BK), mm. 139-140. ♫ AUDIO SAMPLE: 103.



Summary

The main principle guiding many of the arrangement decisions above was to augment the sonority of the two guitars. Sonorous augmentation is considered an appropriate aesthetic in the present case study owing to the desire to re-create the rich sonority of the original quintet version of *Landscape*. An increase in sonority between the two guitars is suggested as one way of compensating for the critical differences in instrumentation between the two versions of *Landscape*, where the duet arrangement

was unable to benefit from the long legato sounds capable of being produced by bowed string instruments. A further compensation was the reduction in the number of instruments in the ensemble. Sonorous augmentation was the chosen aesthetic principle to sustain the sense of structural integrity and timbral diversity in an arrangement of considerably restricted instrumental forces.

Guitar fingering has consistently been shown in the present study to influence the sonority of the instrument, in particular through the selective use of open and stopped strings, as well as the interaction between fingering and articulation, dynamics and timbre. All of these factors were manipulated with fingering in the present case study to augment the sonority of the two guitars. At times, the issue of introducing new substantive material, or making what might be considered to be invasive or destructive alterations to Davidson's original score, arose by virtue of the decisive effect of fingering on substantive musical content. Here again, as elsewhere in the present study, guitar fingering is seen to lie at the intersection of musical content and aesthetic judgment. In the present case, the primary aesthetic principle of sonorous augmentation overrode the strict adherence to the musical material notated in Davidson's original score.

It is important to note that a different approach to guitar fingering and sonority will doubtless arise in the pursuit of a different aesthetic intention for an arrangement or composition. The findings of the present case study suggest approaches to arranging a work for two guitars that draw on fingering principles to augment sonority, rather than restrict it. Elsewhere in the present study, the same fingering principles including for example, cross-string fingerings and the use of open strings, have been shown to be critical in restricting sonority for different aesthetic aims. The present case study shows how powerful a tool fingering can be for the arranger or composer in controlling the

sonority of a musical idea. Furthermore, for the arranger, an approach to guitar fingering that preferences controlled sonorities can manifest itself in the making of significant compositional decisions for the purposes of capturing, in a different setting, the overarching aesthetic principles that characterise a piece of music.

Conclusions

This chapter places guitar fingering at the practical intersection between the performer's job as interpreter and the composer's job as writer. In discussing issues arising from the arrangement process, guitar fingering emerges as critical in both the determination of substantive musical content (typically considered to be the realm of the composer) and the act of realising the music (which is conventionally left to the performer). An aesthetic principle is shown to govern and inform both the approach to realising the music in performance, as well as the music's constituent qualitative and quantitative attributes. In this setting, fingering becomes the practical - almost tangible - tool used in the arrangement process that brings together the musical content and the final performance, all of which is informed by the general aesthetic approach to the work.

In the present case study, the aesthetic rationale for decisions relating to fingering includes primarily the preservation of interlinear independence amidst Davidson's often-dense musical textures, as well as the augmentation of the instruments' sonorous capabilities. To this end, arrangement techniques that have implications relevant for fingering include registral displacements, chord re-voicings, the arpeggiation of chords, and the omission of musical material. In some instances, fingering is seen to be the decisive factor in determining which parts of the original composition would be adapted for the new arrangement, and which parts would be discarded. Important decisions

about the arrangement's musical content are often supported to some degree by performance-based decisions such as for example, fingering for articulation, in order to better serve the intended musical aesthetic (in this example, the preservation of interlinear independence). In as much as it was deemed possible, the arrangement process prioritises maintenance of Davidson's rhythmic structures and emphasis of primarily melodic lines. These are seen to constitute some of the defining characteristics of the work.

While it was never the intention of the present study to provide an exhaustive guide to using fingering in the arrangement or compositional process, it is hoped that the reader will nevertheless gain insights from this case study into the influential role played by guitar fingering in the process of writing guitar music. In particular, the methodological approach used in this case study shows how fingering can be influential at both the fundamental decision-making level, where actual substantive musical content is determined, as well as at the refining or interpretive level, where subtle changes to articulation or chord voicing for example, can better characterise the music's aesthetic. This study does not mean to suggest that a lack of understanding about guitar fingering necessarily precludes a composer from writing guitar music. Rather, it is intended that the findings and suggestions shown in this chapter may equip the composer and/or arranger with a heightened awareness of how guitar fingering can be influential in determining the successful realisation of the composer's intended musical aesthetic and ideas.

Within the broader context of the present study, this chapter affirms the notion that simultaneous awareness of both performance and compositional issues can be mutually informative and enlightening. This study places guitar fingering at the intersection of both performance and compositional practices. Whereas Chapter 2 of

this thesis demonstrated how fingering for interpretive purposes can alter substantive musical content (illuminating the effects of performance interpretation on the composition of a work), the present chapter shows how fingering decisions made at the arrangement level can have significant implications for how the work will eventually *sound* (considering the compositional process in a performance context). On balance, the writer of guitar music will benefit from at least an awareness of the influence of guitar fingering on the realisation of the composer's musical ideas. It is intended that this may be gleaned through the process by which this chapter has conceptually unpacked issues arising for fingering in the context of arranging a work for guitar performance.

Summary of Findings & Conclusions

When Andrés Segovia scolded the young American guitarist Michael Chapdelaine in 1986, was he being overly pedantic and possessive about the fingerings in his edition? Or did he have a point - is fingering as crucial an aspect of guitar music as the very notes themselves? This curious question prompted the present study, in addition to my own experience that fingering played a decisive role in both performance practice and the arrangement and compositional process.

When considering whether fingering is *decisive*, we are suggesting that it is much more than simply a technical tool, or a rudimentary notational device that relinquishes the performer from the task of having to decide upon which string to play a given note. Unfortunately, this latter view is the one found most commonly in didactic guitar methods from the early-19th century to the present. Certainly, there have been some rather more inspired works along the way. Texts like for example, Emilio Pujol's *Guitar School*, or Eduardo Fernandez's *Technique, Mechanism and Learning*, place guitar fingering in a musical context. These texts provide strong links between fingering and musical outcomes. Without any discredit to these works, however, books like *Guitar School* and *Technique, Mechanism and Learning* are also thoroughly pre-occupied with many other important aspects of guitar playing. They are unable to commit neither the time nor the space to deeply exploring fingering and the subtleties of its influence on the music that we hear.

This is exactly where this thesis is pitched. It aims to be a more deeply probing investigation that goes further than simply asserting that fingering is connected with musical outcomes (a fact that any good guitarist will tell you). This study explores *how* fingering affects the music that we hear, from the smallest group of notes to larger-scale

structural delineations. In doing so, I have addressed the key question outlined in the Introduction; to what extent does guitar fingering affect the music that we hear? The related sub-questions have formed the structural basis for this dissertation; how might fingering be used as an interpretive tool in guitar performance, and how might fingering be influential in the process of writing guitar music?

Insofar as fingering has been seen to affect substantive musical outcomes, four primary issues were found to be generally all-inclusive of the various factors in the decision-making process of guitar fingering. These issues were phrasing, sonority, notational conventions, and mechanism and technique. Most clearly demonstrated in the Chapter 2 discussion of performance interpretation was the highly interactive nature of these four issues, which were seen to affect musical outcomes at both the macro- and micro-levels of interpretation. Other areas of inquiry, including historically-inspired-performance practice, saw these primary issues relate in different ways, which only affirmed the general applicability of this study's research methodology, as well as the highly fluid nature of the primary issues.

At the composing and arranging level, these four primary issues placed guitar fingering at the intersection of the performer's job as interpreter and the composer's job as writer. Here, as in the case in Chapter 2, general aesthetic principles were shown to govern and inform how fingering interacts with substantive musical attributes. The process outlined in the Chapter 3 case study showed how fingering works at both the levels of fundamental decision-making, as well as in the later refining stages of editing a work.

For performers, this research provides the guitarist with a web of context for using fingering to make interpretive decisions. Fingering is illuminated as a powerful tool in

shaping the various substantive musical attributes that are effective in musical interpretation and communication through performance. This research places guitar fingering at the heart of inquiry into performance interpretation. This is most significant because it focuses on a practical, procedural aspect of performance that goes beyond investigating the specific performance conventions that influence an interpretation. Using fingering, this research instead reveals *how* performance conventions may be manipulated to realise an intended aesthetic and expressive musical outcome. Further, this thesis aims to fill a large gap in literature on fingering for plucked instruments, an area of performance inquiry that has not had the benefit of research enjoyed by other instruments.

For the (non-guitarist) composer/arranger, this thesis does not mean to suggest that a lack of understanding about guitar fingering necessarily precludes the non-guitarist composer/arranger from writing good guitar music. Indeed, many great works have been written by composers with very little knowledge of guitar fingering. Rather, this thesis provides a conceptual framework for the non-guitarist-composer, and even the experienced guitarist-composer, to develop or heighten one's own awareness of the significant influence of guitar fingering in determining substantive musical content. Through an understanding of this process as demonstrated in the Chapter 3 case study, it is now possible for composers to engage in an informed discussion about how fingering can be factored into the compositional process, which may suggest further issues for research into the composition of guitar music.

For musical research in general, this thesis opens new avenues for discussion in the methodological basis of practice-led research. In the present study, the focus is on a practical performance issue (in this case fingering) that forms the catalyst for empirical observation into largely abstract and aesthetic, not to mention non-textual and

non-visual, territory. Objectively identifying and measuring intangible and often highly personal subjects such as performance interpretation gives rise to many significant challenges for the researcher. This thesis has attempted to overcome these challenges by developing an empirical terminological framework, and adopting a multimedia platform for dissemination, that reveals how practical issues of performance can be objectively discussed to illuminate conventionally abstract concepts.

The theoretical study of musical textures is significant in the empirical observation of how the four primary issues affect the music that we hear. In particular, the terminological framework established by Anne Carothers Hall and Wallace Berry facilitates the accurate and impartial analysis of substantive musical attributes, including key qualitative and quantitative components such as for example, interlinear independence and density. The objectivity in musical discussion facilitated by textural analysis is supported by the use of audio samples. These samples allow the reader to appreciate the resultant sounding interaction between guitar fingering and the four primary issues. It is hoped that the wider community of practice-based researchers may in future consider similar models for investigating non-traditional areas of musical inquiry, and hopefully find ways to improve the methodology adopted in the present study.

Lastly, this research highlights the importance of the performer-composer collaboration, which is a potential issue for ethnomusicological research into the current working practices of contemporary composers and performers. Intriguingly, these disciplines belong today to wholly distinct realms of musical pursuit. This brings us back to one of the driving forces of inquiry mentioned in the background to the present study; that of trying to pin-down the difference between a guitarist- and a non-guitarist-composer writing guitar music. One the one hand, this research has

highlighted how fingering might be seen as a distinguishing factor between these two conventionally opposed professions (at least in the 20th and 21st centuries). At the same time, however, this thesis has thrown-up many issues that place fingering at the intersection of interpretive outcomes and the compositional process. What these two fields have in common is that a general aesthetic approach to interpretation and musical expression lies behind fingering decisions at both the compositional and performance levels of music-making on the guitar. In other words, a guitarist-performer can use fingering to make compositional decisions that might align notated substantive musical attributes more closely to the performer's intended musical expression. At the same time, the composer or arranger may use fingering to notate a score so that it more accurately suggests the writer's intended musical aesthetic. Certainly, the guitarist-composer has a great advantage here in being able to experience both sides of this process. Where this study aims to be helpful is in showing non-guitarist composers, and indeed non-composer guitarists, how fingering affects musical outcomes *on the other side*.

It is hoped that the potent cross-disciplinary interaction of fingering in performance interpretation and composition/arranging will encourage the renewal of the now rather obsolete practice of performers writing their own music and composers playing their works. If anything, this thesis' emphasis on guitar fingering makes it clear that an innate understanding of how fingering affects substantive musical outcomes is an empowering tool that has the capacity to encourage a return to the age-old composer-as-performer persona, a tradition that this author would very much like to see emerge among current and future generations of musicians.

Finally, where this study makes a significant distinction regarding guitar fingering is with respect to its *procedural* nature; i.e. guitar fingering (and fingering on any

instrument for that matter) is a creative process, not simply a notational convention or rudimentary guide for finger placement. This conceptual distinction has allowed guitar fingering to be researched in a practical manner, where the un-packing of the decision-making process of fingering has shown how substantive attributes of a guitar work are affected in significant and determinative ways. Such an investigation allows the reader to build a conceptual web of context for one's own personal interpretive outcomes, as well as acquire a working understanding of how fingering is factored into the process of writing guitar music.

Bibliography

Books / Journal Articles / Online References / Theses

Collins Pocket Dictionary of Music (London & Glasgow: Collins, 1982).

The New Grove Dictionary of Music and Musicians, ed. Stanley Sadie and John Tyrrell (Second edn.; London: MacMillan, 2001).

The Oxford Companion to Music, ed. Alison Latham. *Oxford Music Online*. Oxford University Press. Web.

ABBOTT, LORRAINE ANN, 'Arranging Music for the Classical Guitar/Piano Duo, including Three Arrangements by the Author', Doctoral Thesis (University of Miami, 2001).

AGUETTANT, LOUIS, *La Musique de piano des origines à Ravel* (Paris: Albin Michel, 1954).

ALPERSON, PHILIP, 'When Composers Have to Be Performers', *The Journal of Aesthetics and Art Criticism*, 49/4 (1991), 369-73.

APLVOR, DENIS, *An Introduction to Serial Composition for Guitarists* (Shaftesbury: Musical New Services Ltd, 1982).

BAKER, DUCK, 'Sessions: Sneaky Fingering Secrets', *Guitar Player*, 33/12 (1999), 142.

BARBOSA-LIMA, CARLOS, 'The Art of Transcription', *Music Journal*, 34/May (1976), 32-33.

BENT, IAN D. 'Notation', *Grove Music Online. Oxford Music Online*. <http://www.oxfordmusiconline.com/subscriber/article/grove/music/20114pg2>, accessed 13 October 2012.

BERLIOZ, HECTOR, *The Memoirs of Hector Berlioz*, ed. and trans. David Cairns (1803-1865; rev. repr., London: Victor Gollancz Ltd., 1969).

BERRY, WALLACE, *Structural Functions in Music* (Englewood Cliffs: Prentice-Hall,

1976).

BESHARSE, KARI E., 'The Role of Texture in French Spectral Music', D.M.A. diss. (University of Illinois, 2009).

BIGGS, MICHAEL and BUCHLER, DANIELA, 'Eight criteria for practice-based research in the creative and cultural industries', *Art, Design & Communication in Higher Education,* 7/1 (2008), 5-18.

BOWEN, JOSE ANTONIO, 'The History of Remembered Innovation: Tradition and Its Role in the Relationship between Musical Works and Their Performances', *The Journal of Musicology,* 11/2 (1993), 139-73.

---, 'Performance Practice versus Performance Analysis: Why Should Performers Study Performance?', *Performance Practice Review,* 9/1 (1996), 16-35.

---, 'Tempo, Duration and Flexibility: A Partial methodology for the Historical Study of Performance', *Journal of Musicological Research,* 16/2 (1996), 111-56.

BREAM, JULIAN, 'How to Write for the Guitar', *The Score and I.M.A. Magazine,* 19 (1957), 19-26.

---, 'Toru Takemitsu: An Appreciation', *Guitar Review,* 105/Spring (1996), 2-3.

BRINDLE, REGINALD SMITH, 'The composer's problems', *Guitar Review,* 83/Fall (1990), 25-30.

BROWN, CLIVE, *Classic and Romantic Performance Practice: 1750-1900* (Oxford: Oxford University Press, 1999).

CHAPMAN, RICHARD, *Guitar: Music, History, Players* (London: Dorling Kindersley Limited, 2000).

CHOPIN, FREDERIC, *Chopin's Letters* (repr. New York: Alfred A. Knopf, 1931; New York: Dover, 1988).

DAVIS, JOHN EDWARD, 'The extended alto flute: The history and development of the alto flute, with a study of modern alto flute design and its effect on extended

techniques in alto flute repertoire and pedagogical materials', DMA Diss. (University of Arizona, 1997).

DAVIS, STACEY, 'Implied Polyphony in the Solo String Works of J. S. Bach: A Case for the Perceptual Relevance of Structural Expression', *Music Perception: An Interdisciplinary Journal,* 23/5 (2006), 423-46.

DIETZ, PAULA, 'A Creator of Gardens in Sound: He Looked Only Ahead', *Guitar Review,* 105/Spring (1996), 4-5.

DODGSON, STEPHEN, 'Writing for the guitar: Comments of a non-guitarist composer', *American String Teacher,* 33/Winter (1983), 13-16.

DOISY, *Principes Généraux de la Guitare à cinq et à six cordes et de la Lyre* (1804 edn.; Paris: C. Doisy, 1801).

DUNLAP, MATTHEW GEORGE, 'A Performer's Guide to Toru Takemitsu's In the Woods', (Florida State University, 2008).

DUNN, ALEXANDER, 'Robert de Visée: A Musical Personality Re-examined', *Guitar Review,* 83 (1990), 10-18.

DUNSBY, JONATHAN, 'Considerations of Texture', *Music & Letters,* 70/1 (1989), 46-57.

EIGELDINGER, JEAN-JACQUES, *Chopin: pianist and teacher*, ed. Roy Howat (Cambridge: Cambridge University Press, 1986).

FERNÁNDEZ, EDUARDO, *Technique, Mechanism, Learning: An Investigation Into Becoming a Guitarist* (2nd edn.; Columbus, OH: Guitar Heritage Inc., 2008).

FRISELL, BILL, 'An Approach to Guitar Fingering', in John Zorn (ed.), *Arcana: Musicians on Music* (New York: Hips Road and Granary Books, 2000), 140-44.

GILARDINO, ANGELO, 'Il Problema Della Diteggiatura Nelle Musiche Per Chitarra: Parte Prima', *Il Fronimo,* Gennaio (1975), 5-12.

---, 'Il Problema Della Diteggiatura Nelle Musiche Per Chitarra: Parte Seconda', *Il Pronimo,* Ottobre (1975), 11-14.

GOODMAN, JEFFERY, 'Fernando Sor as a Transcriber', *Soundboard,* Spring (1986), 27-30.

GROUT, DONALD J. and PALISCA, CLAUDE V., *A History of Western Music* (6th edn.; New York: W. W. Norton & Co. Inc., 2001).

GUIGUE, DIDIER JEAN GEORGES and NASCIMENTO, DARLAN ALVES DO, 'A textura como elemento da forma em Amazonas', *Em Pauta, Porto Alegre,* 16/27 (2005), 25-48.

HALL, ANNE CAROTHERS, 'Texture in Violin Concertos of Stravinsky, Berg, Schoenberg, and Bartók', Ph.D. diss. (University of Michigan, 1971).

HARDIN, PHILIP TAD, 'Effective Orchestral Accompaniment at the Keyboard: An Evaluation and Comparison of the Piano Reductions for Mozart's Clarinet Concerto', Treatise (Florida State University, 2006).

HAYNES, BRUCE, *The End of Early Music: a Period Performer's History of Music for the 21st Century* (New York: Oxford University Press, 2007).

HECK, THOMAS F., *Mauro Giuliani: Virtuoso Guitarist and Composer* (Columbus: Editions Orphée, 1995).

HOLLOWAY, DANIEL, 'Australian Compositions for Elementary String Orchestra: Pedagogy, Aesthetics and Enjoyment', Masters Thesis (James Cook University, 2000).

HOUGH, MATTHEW, 'An interview with Paul Cesarczyk', *Guitar Review,* 135 (2008), 31-33.

HUDSON, RICHARD, 'Rubato', in Stanley Sadie and John Tyrrell (eds.), *The New Grove Dictionary of Music and Musicians* (21; London: MacMillan, 2001).

JAROSY, ALBERT, *A New Theory of Fingering*, trans. Seymour Whinyates (London: George Allen & Unwin Ltd, 1933).

JEFFERY, BRIAN, *Fernando Sor: Composer and Guitarist* (London: Tecla Editions,

1977).

KACHIAN, CHRIS, *Composer's Desk Reference for the Classic Guitar* (Pacific, MO: Mel Bay, 2006).

KAHLSTORF, DELANO KENT, 'The Two-part Inventions of J. S. Bach: A performing edition based upon the keyboard technique and performance practice of Bach and his circle', Doctoral Dissertation (Texas Tech University, 2002).

KELLER, HERMANN, *Phrasing and Articulation*, trans. Leigh Gerdine (London: Barrie and Rockliff, 1965).

KIVY, PETER, *Authenticities: Philosophical Reflections on Musical Performance* (Ithaca, NY: Cornell University, 1995).

LAMBERT, CONSTANT, *Music Ho! A Study of Music in Decline* (London: Faber and Faber, 1934).

LANCASTER, GEOFFREY, *Classic Era Performance Practice: Selected Issues* (Canberra: Australian National University, 2008).

LEVINSON, JERROLD, 'Performance vs. Critical Interpretation', in Michael Krausz (ed.), *The Interpretation of Music* (Oxford: Oxford University Press, 1993), 33-60.

LINDLEY, MARK, 'Fingering', in Stanley Sadie and John Tyrrell (eds.), *The New Grove Dictionary of Music and Musicians* (Second edn., 8; London: MacMillan, 2001), 841-51.

LIPPMANN, FRIEDRICH, *Vincenzo Bellini und die italienische Opera Serie seiner Zeit: Studien über Libretto, Arienform und Melodik* (Analecta Musicologica, 6, 1969).

LLOYD, L.S. and RASTALL, RICHARD, 'Pitch nomenclature' *Grove Music Online. Oxford Music Online*; <http://www.oxfordmusiconlme.com/subscriber/article/grove/music/21857>.

LONG, RICHARD M., 'Napoléon Coste: Guitar Works Opp. 14-19', *Napoléon Coste: Guitar Works Vol. 3 [Audio Recording]* (Naxos, 1998).

McGLYNN, JACQUELYN DENURE, 'Keyboard style in late eighteenth-century England: A study of fingering, touch, and articulation', Masters Thesis (The University of Western Ontario, 1999).

MEYER, LEONARD B., *Emotion and Meaning in Music* (Chicago and London: The University of Chicago Press, 1956).

MILLER, DALE, 'Arranging for Guitar', *Guitar Player,* January (1978), 22-23.

NORTON, MARK, 'A Composer's Guide to Writing for the Classical Guitar', Honours Thesis (Australian National University, 1993).

PALMER, KING, *Teach Yourself Orchestration* (London: The English Universities Press Ltd, 1964).

PEREKSTA, LINDA HELEN, 'Twentieth-century compositions for the Baroque flute', Doctoral Dissertation (The Florida State University, 2001).

RADICIONI, DANIELE and LOMBARDO, VINCENZO, 'Guitar Fingering for Music Performance', *International Computer Music Conference* (Proc. International Computer Music Conference; Barcelona, 2005), 527-30.

ROBERGE, MARC-ANDRE, 'From Orchestra to Piano: Major Composers as Authors of Piano Reductions of Other Composers' Works', *Notes,* 49/3 (1993), 925-36.

POTTER, DANIEL R. and TUOHY W.D., 'GA-based Music Arranging for Guitar', *IEEE Congress on Evolutionary Computation* (Sheraton Vancouver Wall Centre Hotel, Vancouver, BC, Canada, 2006).

ROSENBLUM, SANDRA P., *Performance Practices in Classic Piano Music* (Bloomington: Indiana University Press, 1991).

ROWELL, LEWIS, *Thinking About Music: An Introduction to the Philosophy of Music* (Amherst: The University of Massachusetts Press, 1983).

SELL, DAVID, *Musical Textures*, ed. Guy E. Jansen (Sound and Sense; Wellington: Reed Education, 1974).

SCHELL, FELIX, *Arrangieren für den Gitarristen* (Hamburg: Schell Music, 2002).

SCHRYER, YEHUDA, 'All fingers and thumbs: A new approach', *Classical Guitar,* 24/5 (2006), 28-32.

SHEPHERD, RICHARD CHARLES, 'The emergence of a pivotal role for the thumb in keyboard fingering during the early eighteenth century and its subsequent impact on pianistic idiom', D.M.A. Thesis (University of Illinois at Urbana-Champaign, 1995).

SLONIMSKY, NICOLAS, 'Fingering', in Richard Kassel (ed.), *Webster's New World Dictionary of Music* (New York: Macmillan, 1998).

SMALL, CHRISTOPHER, *Musicking: The Meanings of Performing and Listening* (Middletown (Conn., CT): Wesleyan University Press, 1998).

SPADE, PAUL VINCENT, 'Do Composers Have To Be Performers Too?', *The Journal of Aesthetics and Art Criticism,* 49/4 (1991), 365-69.

STENSTADVOLD, ERIK, *An annotated bibliography of guitar methods, 1760-1860* (Hillsdale, N.Y.: Pendragon, 2010).

STOWELL, ROBIN, *Violin technique and performance practice in the late eighteenth and early nineteenth centuries* (Cambridge: Cambridge University Press, 1985).

TANENBAUM, DAVID, 'Scarlatti and the transcription process', *Guitar Player,* 20/September (1986), 90-1.

---, 'A Brief Takemitsu Memorial in Three Parts', *Guitar Review,* 105/Spring (1996), 6-7.

TARUSKIN, RICHARD, *The Oxford History of Western Music*, 6 vols. (3; Oxford: Oxford University Press, 2005).

TAYLOR, JOHN, *Tone Production on the Classical Guitar* (London: Musical News Services Ltd., 1978).

TEPLOW, DEBORAH ANN, 'An Introduction to the Performance Technique of Marin

Marais' "Pieces de Viole" (France)', D.M.A. Thesis (Stanford University, 1983).

THOM, PAUL, 'The Interpretation of Music in Performance', *British Journal of Aesthetics,* 43/2 (2003), 126-37.

---, *The Musician as Interpreter* (Pennsylvania: The Pennsylvania State University Press, 2007).

TOVEY, DONALD FRANCIS, *Musical Textures*, 2 vols. (A Musician Talks, 2; London: Oxford University Press, 1941).

TRENKAMP, ANNE, 'Considerations Preliminary to the Formation of a Textural Vocabulary', *Indiana Theory Review,* 4 (1980), 13-28.

TYLER, JAMES and SPARKS, PAUL, *The Guitar and its Music: From the Renaissance to the Classical Era* (Oxford Early Music Series; Oxford: Oxford University Press, 2002).

WADE, GRAHAM, *A Concise History of the Classic Guitar* (Concise Series; Pacific, MO: Mel Bay Publications, 2001).

WALTER, ADRIAN, 'The Early Nineteenth Century Guitar: An Interpretive Context for the Contemporary Performer', PhD Diss. (Charles Darwin University, 2008).

WHITE, J.D., *Theories of musical texture in Western history* (Garland Pub., 1995).

WILLIAMS, JOHN and BARRUECO, MANUEL, 'Remembering the Composer', *Guitar Review,* 105/Spring (1996), 3.

YATES, STANLEY, 'Bach's Unaccompanied Cello Music: The Nature of the Compound Line and an Approach to Stylistic and Idiomatic Transcription for the Guitar', *Soundboard,* 22/3 (1996), 9-23.

---, 'Villa-Lobos' Guitar Music: Alternative Sources and Implications for Performance', *Soundboard,* 24/1 (1997), 7-20.

YANG, VICKY (CHIA-YI), '"La Belle au Bois Dormant (The Sleeping Beauty)"

Tchaikovsky-Pletnev and Stravinsky's "Petrouchka": a study of piano transcriptions comprising performances and analyses', Masters Thesis (Queensland University of Technology, 2005).

ZDECHLIK, LISA JEAN, 'Texture and Pedaling in Selected Nocturnes of Frederic Chopin', D.M.A. diss. (University of Oklahoma, 2001).

Music Treatises / Didactic Methods

ABREAU, ANTONIO and PRIETO, VICTOR, *Escuela para tocar con perfección la guitarra de cinco y seis órdenes* (Salamanca: Victor Prieto and the Imprenta de la Calle del Prior, 1799).

AGUADO, DIONISIO, *Méthode Complète Pour la Guitare, publiée en Espagnole par Dionisio Aguado, traduite en Français sur le Manuscript corrigé et augmenté de la 2e Edition Espagnole par F. De Fossa* (Paris, 1826; repr., Genève: Minkoff Reprint, 1980).

---, *New Guitar Method* ed. Brian Jeffery, trans. Louise Bigwood (Madrid, 1843; repr., London: Tecla Editions, 1981).

ALTMEIER-MORT, PETER, *The Art of Classical Guitar: A Complete Method*, 3 vols. (1; Melbourne: Allans Publishing, 1989).

BACH, CARL PHILIPP EMANUEL, *Essay on the True Art of Playing Keyboard Instruments*, trans. and ed. William J. Mitchell (1753-1762; repr., New York: Norton, 1949).

BAILLON, PIERRE-JEAN, *Nouvelle Méthode de Guitarre Selon le Sistême des Meilleurs Auteurs* (Paris: P.-J. Baillon, 1780).

BAILLOT, PIERRE MARIE FRANÇOIS DE SALES, *The Art of the Violin*, trans. Louise Goldberg (1835; repr., Chicago: Northwestern University Press, 1991).

CARCASSI, MATTEO, *Méthode Complete, Op. 241.* (5th edn.; Paris: N.-R. Carli, 1825).

---, *Méthode Complète pour la Guitare, Op. 59* (Paris: The author in cooperation with E. Troupenas, 1836).

CARLEVARO, ABEL, *School of Guitar* trans. Jihad Azkoul and Bartolomé Díaz (Montevideo: DACISA S.A., 1984).

CARULLI, FERDINANDO, *Méthode Complette, Op. 27* (Paris: N.-R. Carli, 1810).

COUPERIN, FRANCOIS, *The Art of Playing the Harpsichord. Facsimiles from Couperin's original edition of 1716 plus a new English translation printed parallel with the complete texts of the original editions of 1716 and 1717*, ed. and trans. Margery Halford (New York: Alfred Publishing Company, 1974).

FERANDIERE, FERNANDO, *Arte de tocar la Guitarra española por Música* (Madrid: Pantaleon Aznar, 1799; repr., London: Tecla Editions, 1977).

FLESCH, CARL, *The Art of Violin Playing*, ed. Eric Rosenblith (New York, NY: Carl Fischer, 2000).

FRANÇOIS, LE, *Principes de la Guitarre* (Paris: The author, in cooperation with several Paris publishers and luthiers, 1785).

GARCIA, MANUEL PATRICIO RODRIGUEZ, *Garcia's New Treatise on the Art of Singing*, trans. Donald V. Paschke (London: Beale and Chappel, 1847).

GEMINIANI, FRANCESCO, *The Art of Playing on the Violin*, ed. D. D. Boyden (1751; facs. ed., London: Oxford University Press, 1952).

LEAVITT, WILLIAM G., *A Modern Method for Guitar*, 3 vols. (Boston: Berklee Press Publications, 1971).

MATTHESON, JOHANN, *Kleine Generalbass-Schule* (Hamburg, 1735; repr., Laaber: Laaber Reprint, 2003).

MOLINO, FRANCESCO, *Nouvelle Méthode pour la Guitare* (Leipzig: Bey Breitkopf & Härtel, 1813).

MORETTI, FEDERICO, *Principj per la chitarra* (Naples: Luigi Marescalchi, 1792; repr.,

Florence: S.P.E.S., 1983).

---, *Principios para tocar la guitarra de seis órdenes* (Madrid: Sancha, 1799).

---, *Metodo per la Chitarra* (Naples: Stamperia Simoniana (printer), Calcografia al Gigante No. 19 (seller), 1804).

MOZART, LEOPOLD, *A Treatise on the Fundamental Principles of Violin Playing*, trans. Editha Knocker (1756; repr., London: Oxford University Press, 1951).

MUNIER, C., *Scuola Della Chitarra: Practica D'Accompagnamento, Op. 137*, ed. Benedetto di Ponio (Milan: Ricordi, 1959).

PARKENING, CHRISTOPHER, *The Christopher Parkening Guitar Method, Vol. 1* (Milwaukee, WI: Hal Leonard Corporation, 1972; rev. ed. 1999).

PHILLIS, JEAN-BAPTISTE, *Nouvelle Methode pour la Lyre ou Guitare a six cordes* (Paris: I. Pleyel, 1799).

PISTON, WALTER, *Orchestration* (1955; 6th Impression, London: Victor Gollancz Ltd, 1973).

PUJOL, EMILIO, *Guitar School* ed. Matanya Ophee, trans. Brian Jeffery (repr., Columbus, OH, 1934; Madrid: Editions Orphée, 1983).

QUANTZ, JOHANN JOACHIM, *Versuch einer Anweisung die Flöte traversiere zu spielen*, trans. Faber and Faber (Berlin, 1752; repr., London: Faber and Faber, 1966).

ROMERO, PEPE, *Guitar Style & Technique* (New York: Bradley Publications, 1982).

SEDIE, E. DELLE, *L'Art Lyrique* (Paris: Léon Escudier, 1873).

SOR, FERNANDO, *Method for the Spanish Guitar. A complete reprint of the 1832 English translation with a preface by Brian Jeffery* (London: R. Cocks & Co., 1832; rev. repr., London: Tecla Editions, 2003).

URSHALMI, JOSEPH, *A Conscious Approach to Guitar Technique* (Isle of Man: Chanterelle Verlag, Music Media Investments Ltd., 2006).

YAMPOLSKY, I. M., *The Principles of Violin Fingering*, trans. Alan Lumsden (London:

Oxford University Press, 1967).

Printed Scores

AGUADO, DIONISIO, 'Le Fandango Varié', in Brian Jeffery (ed.), *Selected Concert Works for Guitar in Facsimiles of the Original Editions* (Heidelberg: Chanterelle Verlag, 1840s?).

BACH, JOHANNN SEBASTIAN, *Johann Sebastian Bach: The Solo Lute Works*, ed. Frank Koonce (2nd edn.; San Diego: Neil A. Kjos Music Company, 2002).

---, 'Partita for Solo Flute, BWV 1013', in Tadashi Sasaki (ed.), (Tokyo: Zen-On Music Company Ltd., 2005).

BRITTEN, BENJAMIN, *Nocturnal, after John Dowland, op. 70*, ed. Julian Bream (London: Faber Music, 1964).

BROUWER, LEO and PAOLINI, PAOLO, *Scales for Guitar* (Milan: Ricordi, 1979).

---, *El Decameron Negro* (Habana: Editoria Musica del Cuba, 1981).

---, *Sonata* (Madrid: Opera Tres, 1992).

CASTELNUOVO-TEDESCO, MARIO, *24 Caprichos de Goya*, ed. Angelo Gilardino, 4 vols. (Ancona: Edizioni Musicali Bèrben, 1970).

D'ANGELO, NUCCIO, *Due Canzoni Lidie* (Paris: Editions Max Eschig, 1987).

COSTE, NAPOLEON, *Fantasie sur deux motifs de La Norma pour la Guitare, op. 16* (Paris: E. Challiot, n.d.).

DAVIDSON, ROBERT, *Landscape* (facsimile, 2000).

---, *Landscape: guitar quartet version*, arr. Robert Davidson (facsimile, 2009).

---, *Landscape: version for two guitars*, arr. Bradley Kunda (facsimile, 2010).

GIULIANI, MAURO, *Grande Ouverture, op. 61* (Milan: Jean Ricordi, n.d.).

---, "Bel raggio lusinghiero" [WoO, G-8]', in Brian Jeffery (ed.), *Mauro Giuliani: The Complete Works in Facsimiles of the Original Editions* (1987 edn., 18; London:

Tecla Editions, 1827).

---, "Qual mesto gemito", in Brian Jeffery (ed.), *Mauro Giuliani: The Complete Works in Facsimiles of the Original Editions* (1987 edn., 18; London: Tecla Editions, 1827).

HOUGHTON, PHILLIP, *God of the Northern Forest* (Sydney: Moonstone Music Publications, 1993).

KOEHNE, GRAEME, 'A Closed World of Fine Feelings and Grand Design', (facsimile, n.d.).

LLOBET, MIGUEL, *Vol. 1: Cançons Populars Catalanes (Catalan Folk Songs)*, ed. Stefano Grondona (Heidelberg: Chanterelle Verlag, 2009).

MOLINO, FRANCESCO, *Grande Ouverture, Op. 17*, ed. Carlo Barone and Francesco Taranto (Padova: G. Zanibon, 1991).

MORETTI, LUIGI, *Gran Sonata*, ed. Carlo Barone (Padova: G. Zanibon, 1989).

OURKOUZOUNOV, ATANAS, *Sonate pour Guitare* (Paris: Editions Henry Lemoine, 1997).

PONCE, MANUEL, *Sonata Clásica*, ed. Andres Segovia (Mainz: Schott Musik International, 1929).

RAVEL, MAURICE, *Piano Concerto in G* (Paris: Durand, 1932).

RODRIGO, JOAQUIN, *Concierto de Aranjuez* (Madrid: Distributed by B. Schott Söhne, Mainz, London, New York, Tokyo, 1959).

---, *Tres piezas españolas* (Mainz: B. Schott Söhne, 1963).

SEGOVIA, ANDRÉS, *Diatonic Major and Minor Scales* (Columbia: Columbia Music, 1980).

SOR, FERNANDO, *Grand Solo, op. 14* (Bonn et Cologne: N. Simrock, n.d.).

---, 'Leçons Progressives, Op. 31, No. 4', in Brian Jeffery (ed.), *Fernando Sor: Complete Works for Guitar* (1977 edn., 3; New York: Shattinger International

Music Corp., 1829-1839).

TAKEMITSU, TORU, *Equinox*, ed. Manuel Barrueco (Tokyo: Schott Japan, 1995).

---, *In The Woods* (Tokyo: Schott Japan, 1996).

TANSMAN, ALEXANDRE, *Variations on a theme of Scriabin*, ed. Alvaro Company (Paris: Max Eschig, 1972).

TARREGA, FRANCESCO, 'Prelude in A minor No. 2', (Barcelona: MS, 1896).

---, 'Alborada', in Mario Gangi and Carlo Carfagna (eds.), *Opere Per Chitarra: Vol. 3 - Composizioni Originali* (repr. edn., n.d.; Ancona: Edizioni Bèrben, 1973).

---, 'Preludi', in Mario Cangi and Carlo Carfagna (eds.), *Opere Per Chitarra: Vol. 1 - Preludi* (repr. edn., n.d.; Ancona: Edizioni Bèrben, 1973).

VILLA-LOBOS, HEITOR, *Cinq Préludes*, ed. Frédéric Zigante (Paris: Eschig, 2006).

WALTON, WILLIAM, *Five Bagatelles*, ed. Julian Bream (London: Oxford University Press, 1974).

Audiovisual Material

Sound Recordings

ARGERICH, MARTHA et al., *Maurice Ravel: Klavierkonzert G-dur / Gaspard de la Nuit / Sonatine* (Deutsche Grammophon Compact Disc 419 062-2, 1987).

CARDI, STEFANO, *Guitar at the Opera: Original 19th Century Transcriptions of Opera Arias for Guitar by Giuliani, Coste & Tarrega* (Esperia Compact Disc 9, 1999).

CAUVIN, THIBAULT, *No. 4* (GSP Records Compact Disc GSP1032CD, 2008).

DUKIC, ZORAN, *Mario Castelnuovo-Tedesco: 24 Caprichos de Goya for Guitar, Op. 195* (Naxos Compact Disc, 8.572252-53, 2009).

DUO, BREW GUITAR, *Landscape: Australian Guitar Duets* (Self-Released Compact Disc, 2010).

DYLLA, MARCIN, *Guitar Recital: Rodrigo, J. / Tansman, A. / Maw, N. / Ponce, M.*

(Naxos Compact Disc 8.572060, 2008).

LLOBET, MIGUEL, *The Complete Guitar Recordings: 1925-1929*, (Chanterelle Verlag/Guitar Heritage Inc. Compact Disc CHR 001, 2008).

QUARTET, MELBOURNE GUITAR, *Toccata* (Fuse Music Group Compact Disc 948172, 2010).

SCHAUPP, KARIN WITH "ENSEMBLE 24", *Landscape* (Live Performance Recording, n.d.) [personal file share with Bradley Kunda], (21 November 2012) <r.davidson2@uq.edu.au> accessed 21 November 2012.

SEGOVIA, ANDRES, *The Art of Segovia [Original Recording Remastered]* (Deutsche Grammophon Compact Disc DGG 2894716972, 2002).

STEIDL, PAVEL, *Coste: Guitar Works, Vol. 3* (Naxos Compact Disc 8.554353, 2000).

VILLA-LOBOS, HEITOR, *Villa-Lobos Plays Villa-Lobos 1920-1940* (SanCtuS Recordings Compact Disc SCSH 010, 2008).

WILLIAMS, JOHN, PHILADELPHIA ORCHESTRA, THE, ORMANDY, EUGENE, *Rodrigo: Concierto de Aranjuez / Castelnuovo-Tedesco Guitar Concerto No. 1* (St. Michael, Vinyl LP Record 2094/2003, 1978).

Films and Video Recordings

NUPEN, CHRISTOPHER (dir.) *Segovia at Los Olivos* (Opus Arte/Allegro Films DVD, 1967).

THOMAS, DAVID (dir.) *John Williams: The Film Profile* (RM Associates/Sony Classical/LWT DVD, 1993).

Online Media and Web Pages

Andrés Segovia: Masterclass with Michael Chapdelaine, 1986 <http://www.youtube.com/watch?v=wiAbqfaYGwk>, s.v. 'Segovia Chapdelaine

Class', accessed 13 October 2012.

Gabor Podhorszky plays N Coste Fantasie

<http://www.youtube.com/watch?v=xi-cAEfAPxw>, s.v. 'gabor podhorszky coste', accessed 22 March 2012.

CENTRE, AUSTRALIAN MUSIC, 'Landscape: for guitar and string quartet',

<http://www.australianmusiccentre.com.au/workversion/davidson-robert-landscape/12421>, accessed 28 November 2012.

JEFFERY, BRIAN, 'Playing from original editions, especially 19th century guitar music',

<http://www.tecla.com/misc/origedns.htm>, accessed 19 November 2012.

WEBB, JEN, 'Creative work as/and practice: The new paradigm', *Australian Postgraduate Writers Network*, (2008)

<http://www.writingnetwork.edu.au/content/brief-notes-practice-led-research-0%3E>, accessed 13 July 2012.

Interview Material

DAVIDSON, ROBERT, 'Answers to Landscape questions' [email to Bradley Kunda], (22 September 2012) <r.davidson2@uq.edu.au>, accessed 22 September 2012.

Appendix A: CD 1 – *Audio Samples* (Track list)

The Audio Samples CD is designed to accompany the notated score excerpts in the written text of this dissertation. This allows the reader to hear the effect of guitar fingering on the end musical result. The numbering of audio samples is continuous across the entire dissertation, and so corresponds with the track numbering on the CD (i.e. "Audio Sample: 1" is on CD Track 1; "Audio Sample: 2" is on CD Track 2, and so on). Details of the work to which each audio sample refers can be found in the "List of Notated Examples and Audio Samples" above on page 7.

Unless otherwise noted, all samples have been performed and recorded by myself.

Guitars: all audio samples were recorded using a Paulino Bernabé guitar (Madrid, 1974).

Exceptions:

* Replica of 8-string guitar by N. G. Ries (Vienna, ca. 1840) by Jan Tuláček (Dobris, 2012)

** René Lacote (Paris, 1825)

*** Greg Smallman (Australia, 1992), Ian Kneipp (Australia, 2000)

Track List

CD TRACK	AUDIO SAMPLE	PERFORMER NOTES
1	AUDIO SAMPLE: 1	Miguel Llobet, *The Complete Guitar Recordings: 1925-1929* (Chanterelle Verlag/Guitar Heritage Inc. Compact Disc CHR 001, 2008), Track 9.
2	AUDIO SAMPLE: 2	
3	AUDIO SAMPLE: 3	
4	AUDIO SAMPLE: 4	
5	AUDIO SAMPLE: 5	
6	AUDIO SAMPLE: 6*	
7	AUDIO SAMPLE: 7*	
8	AUDIO SAMPLE: 8*	
9	AUDIO SAMPLE: 9	
10	AUDIO SAMPLE: 10	
11	AUDIO SAMPLE: 11	
12	AUDIO SAMPLE: 12	
13	AUDIO SAMPLE: 13	
14	AUDIO SAMPLE: 14	
15	AUDIO SAMPLE: 15	
16	AUDIO SAMPLE: 16	
17	AUDIO SAMPLE: 17	
18	AUDIO SAMPLE: 18	
19	AUDIO SAMPLE: 19	
20	AUDIO SAMPLE: 20	
21	AUDIO SAMPLE: 21	
22	AUDIO SAMPLE: 22	
23	AUDIO SAMPLE: 23	
24	AUDIO SAMPLE: 24	
25	AUDIO SAMPLE: 25	
26	AUDIO SAMPLE: 26	
27	AUDIO SAMPLE: 27	

28	AUDIO SAMPLE: 28**	
29	AUDIO SAMPLE: 29**	
30	AUDIO SAMPLE: 30**	
31	AUDIO SAMPLE: 31**	
32	AUDIO SAMPLE: 32	Pavel Steidl, *Coste: Guitar Works, Vol. 3* (Naxos Compact Disc 8.554353, 2000), Track 5.
33	AUDIO SAMPLE: 33	*Gabor Podhorszky plays N Coste Fantasie* <http://www.youtube.com/watch?v=xi-cAEfAPxw>, s.v. 'gabor podhorszky coste', accessed 22 March 2012.
34	AUDIO SAMPLE: 34**	
35	AUDIO SAMPLE: 35	Stefano Cardi, *Guitar at the Opera: Original 19th Century Transcriptions of Opera Arias for Guitar by Giuliani, Coste & Tarrega* (Esperia Compact Disc 9, 1999), Track 4.
36	AUDIO SAMPLE: 36**	
37	AUDIO SAMPLE: 37**	
38	AUDIO SAMPLE: 38**	
39	AUDIO SAMPLE: 39**	
40	AUDIO SAMPLE: 40**	
41	AUDIO SAMPLE: 41**	
42	AUDIO SAMPLE: 42**	
43	AUDIO SAMPLE: 43**	
44	AUDIO SAMPLE: 44	
45	AUDIO SAMPLE: 45	
46	AUDIO SAMPLE: 46	
47	AUDIO SAMPLE: 47	
48	AUDIO SAMPLE: 48	
49	AUDIO SAMPLE: 49	
50	AUDIO SAMPLE: 50	
51	AUDIO SAMPLE: 51	
52	AUDIO SAMPLE: 52	

53	AUDIO SAMPLE: 53	
54	AUDIO SAMPLE: 54	
55	AUDIO SAMPLE: 55	
56	AUDIO SAMPLE: 56	
57	AUDIO SAMPLE: 57	
58	AUDIO SAMPLE: 58	
59	AUDIO SAMPLE: 59	
60	AUDIO SAMPLE: 60	
61	AUDIO SAMPLE: 61	
62	AUDIO SAMPLE: 62	
63	AUDIO SAMPLE: 63	
64	AUDIO SAMPLE: 64	
65	AUDIO SAMPLE: 65	
66	AUDIO SAMPLE: 66	
67	AUDIO SAMPLE: 67	
68	AUDIO SAMPLE: 68	
69	AUDIO SAMPLE: 69	
70	AUDIO SAMPLE: 70	
71	AUDIO SAMPLE: 71	
72	AUDIO SAMPLE: 72	Karin Schaupp with "Ensemble 24", *Landscape* (Live Performance Recording, n.d.) [personal file share with Bradley Kunda], (21 November 2012) <r.davidson2@uq.edu.au> accessed 21 November 2012.
73	AUDIO SAMPLE: 73	Melbourne Guitar Quartet, *Toccata* (Fuse Music Group Compact Disc 948172, 2010), Track 11.
74	AUDIO SAMPLE: 74	
75	AUDIO SAMPLE: 75***	Brew Guitar Duo, *Landscape: Australian Guitar Duets* (Self-Released Compact Disc, 2010), Track 2.
76	AUDIO SAMPLE: 76	
77	AUDIO SAMPLE: 77	

78	AUDIO SAMPLE: 78	Karin Schaupp with "Ensemble 24", *Landscape* (Live Performance Recording, n.d.).
79	AUDIO SAMPLE: 79***	Brew Guitar Duo, *Landscape: Australian Guitar Duets* (Self-Released Compact Disc, 2010), Track 2.
80	AUDIO SAMPLE: 80***	Brew Guitar Duo, *Landscape: Australian Guitar Duets* (Self-Released Compact Disc, 2010), Track 2.
81	AUDIO SAMPLE: 81***	Brew Guitar Duo, *Landscape: Australian Guitar Duets* (Self-Released Compact Disc, 2010), Track 2.
82	AUDIO SAMPLE: 82	Karin Schaupp with "Ensemble 24", *Landscape* (Live Performance Recording, n.d.).
83	AUDIO SAMPLE: 83	Melbourne Guitar Quartet, *Toccata* (Fuse Music Group Compact Disc 948172, 2010), Track 11.
84	AUDIO SAMPLE: 84***	Bradley Kunda and Matthew Withers.
85	AUDIO SAMPLE: 85***	Bradley Kunda and Matthew Withers.
86	AUDIO SAMPLE: 86***	Bradley Kunda and Matthew Withers.
87	AUDIO SAMPLE: 87***	Bradley Kunda and Matthew Withers.
88	AUDIO SAMPLE: 88***	Brew Guitar Duo, *Landscape: Australian Guitar Duets* (Self-Released Compact Disc, 2010), Track 2.
89	AUDIO SAMPLE: 89	Karin Schaupp with "Ensemble 24", *Landscape* (Live Performance Recording, n.d.).
90	AUDIO SAMPLE: 90	
91	AUDIO SAMPLE: 91	Karin Schaupp with "Ensemble 24", *Landscape* (Live Performance Recording, n.d.).
92	AUDIO SAMPLE: 92***	Brew Guitar Duo, *Landscape: Australian Guitar Duets* (Self-Released Compact Disc, 2010), Track 2.
93	AUDIO SAMPLE: 93	Karin Schaupp with "Ensemble 24", *Landscape* (Live Performance Recording, n.d.).

94	AUDIO SAMPLE: 94***	Bradley Kunda and Matthew Withers.
95	AUDIO SAMPLE: 95***	Bradley Kunda and Matthew Withers.
96	AUDIO SAMPLE: 96	Karin Schaupp with "Ensemble 24", *Landscape* (Live Performance Recording, n.d.).
97	AUDIO SAMPLE: 97	Melbourne Guitar Quartet, *Toccata* (Fuse Music Group Compact Disc 948172, 2010), Track 11.
98	AUDIO SAMPLE: 98***	Brew Guitar Duo, *Landscape: Australian Guitar Duets* (Self-Released Compact Disc, 2010), Track 2.
99	AUDIO SAMPLE: 99***	Brew Guitar Duo, *Landscape: Australian Guitar Duets* (Self-Released Compact Disc, 2010), Track 2.
100	AUDIO SAMPLE: 100***	Brew Guitar Duo, *Landscape: Australian Guitar Duets* (Self-Released Compact Disc, 2010), Track 2.
101	AUDIO SAMPLE: 101***	Brew Guitar Duo, *Landscape: Australian Guitar Duets* (Self-Released Compact Disc, 2010), Track 2.
102	AUDIO SAMPLE: 102	Karin Schaupp with "Ensemble 24", *Landscape* (Live Performance Recording, n.d.).
103	AUDIO SAMPLE: 103***	Brew Guitar Duo, *Landscape: Australian Guitar Duets* (Self-Released Compact Disc, 2010), Track 2.

Appendix B: CD 2 – *Guitar Recital* (Track list)

This *Guitar Recital* CD constitutes the primary part of this thesis' performance component. The works contained on this disc include most of those that have been selected for analysis in the case studies of Chapters 2 and 3 (case study works not included on this disc can be found on CD 3).

This recording allows the reader to consider in a more complete context the issues arising from fingering discussed above. The study of all of these works for performance was a critical part of the research process that revealed issues of fingering relevant to the preparation of a musical interpretation for performance. Further, the process of conducting detailed analyses of fingering issues in each of these works informed my eventual interpretation for performance. This recording represents the final product of this process of practice-led research and its associated research into practice.

Recording Information

Recorded 17-18 March 2012
Larry Sitsky Recital Room, the Australian National University School of Music
Recording Producer: Bradley Kunda
Recording Engineer: Matthew Withers
Editing: Bradley Kunda
Mastering: Kimmo Vennonen (kv productions)
Guitar: Paulino Bernabé, 1974

Track List

CD Track	Title	Composer	Duration [mm:ss]
1-3	**Selections from *24 Caprichos de Goya***	Mario Castelnuovo-Tedesco	
[1]	• No. 1 "Francisco Goya y Lucientes, Pintor" (*Francisco Goya y Lucientes, Painter*)		04:16
[2]	• No. 8 "Dios la perdone: Y era su madre" (*God forgive her: and it was her mother*)		04:42
[3]	• No. 13 "¿Quién más rendido?" (*Which of them is more overwhelmed?*)		03:06
4-8	***Five Preludes***	Heitor Villa-Lobos	
[4]	• Prelude no. 1 in E minor		05:17
[5]	• Prelude no. 2 in E major		03:25
[6]	• Prelude no. 3 in A minor		03:44
[7]	• Prelude no. 4 in E minor		04:04
[8]	• Prelude no. 5 in D major		04:03
9-11	***Sonata for guitar***	Atanas Ourkouzounov	
[9]	• Allegro assai		04:19
[10]	• Adagio quasi canzone		02:49
[11]	• Vivo		03:20
12	***Variations on a theme of Scriabin***	Alexandre Tansman	10:47
13-15	***In the Woods***	Toru Takemitsu	
[13]	• Wainscot Pond		04:24
[14]	• Rosedale		04:49
[15]	• Muir Woods		05:46

Disc Duration: 70:11

Appendix C: CD 3 – *Additional Works* (Track list)

This CD contains the two remaining works analysed in the case studies of Chapters 2 and 3 but not included on CD 2. As in the case of the *Guitar Recital* recording, the practice and performance of these two works was critical to the research process of this study, the findings of which informed the eventual recorded performance. The reader may again use these recordings to position the findings of this study in the more complete context of the works performed in their entireties.

The recording of *Landscape*, while performed by myself in my guitar duo, is nevertheless taken from the recording Brew Guitar Duo, *Landscape: Australian Guitar Duets* (Self-Released Compact Disc, 2010). The recording of this work is included here as a reference for the reader and is not to be considered as part of the performance component submitted for this thesis.

Recording Information

Track 1
Recorded 4 August 2012
Recording Studio, The Australian National University School of Music
Recording Producer: Bradley Kunda
Recording Engineer: Matthew Withers
Editing: Bradley Kunda
Guitar: Replica of 8-string guitar by N. G. Ries (Vienna, ca. 1840) by Jan Tuláček (Dobris, 2012)

Track 2
Recorded June 2010
Recording Studio, The Australian National University School of Music
Recording Producers: Timothy Kain, Ty Quinn
Recording Engineer: Matthew Withers, Niven Stines
Editing: Matthew Withers, Bradley Kunda
Guitars: Greg Smallman (Australia, 1992), Ian Kneipp (Australia, 2000)

Track List

CD Track	Title	Composer	Duration [mm:ss]
1	*Fantasia on themes from Bellini's "Norma"*, Op. 16	Napoleon Coste	09:08
2	*Landscape*	Robert Davidson, arr. Bradley Kunda	10:07

Disc Duration: 19:15

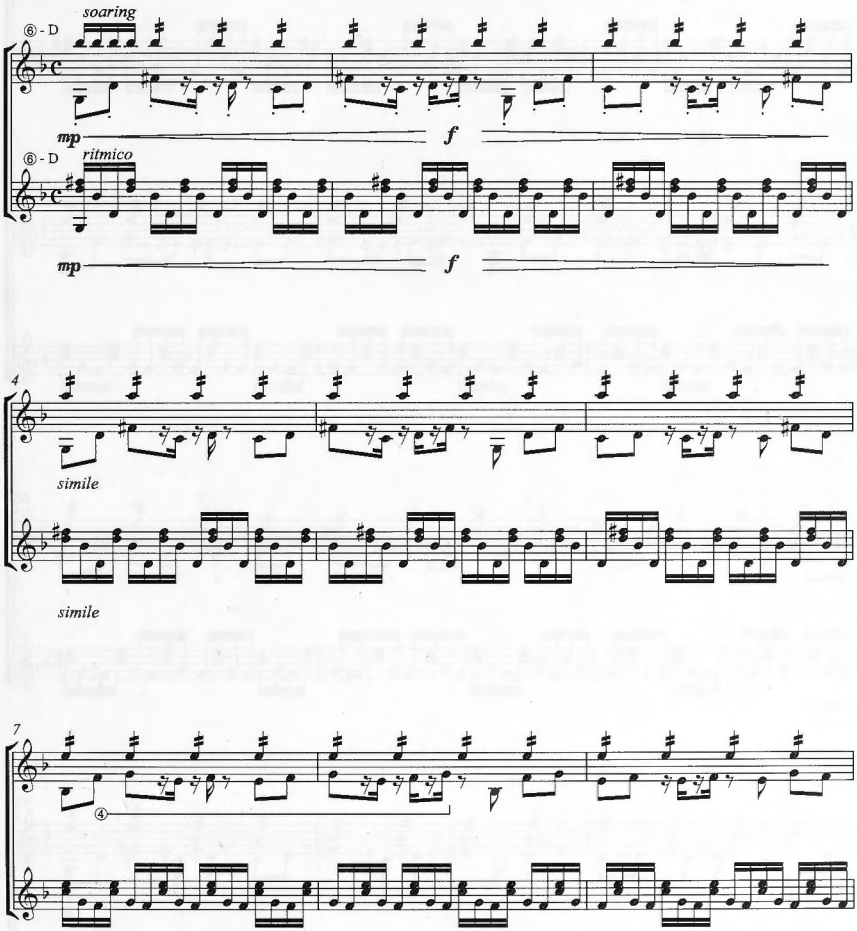
Appendix D: Full Score – *Landscape* (Arrangement for Guitar Duet)

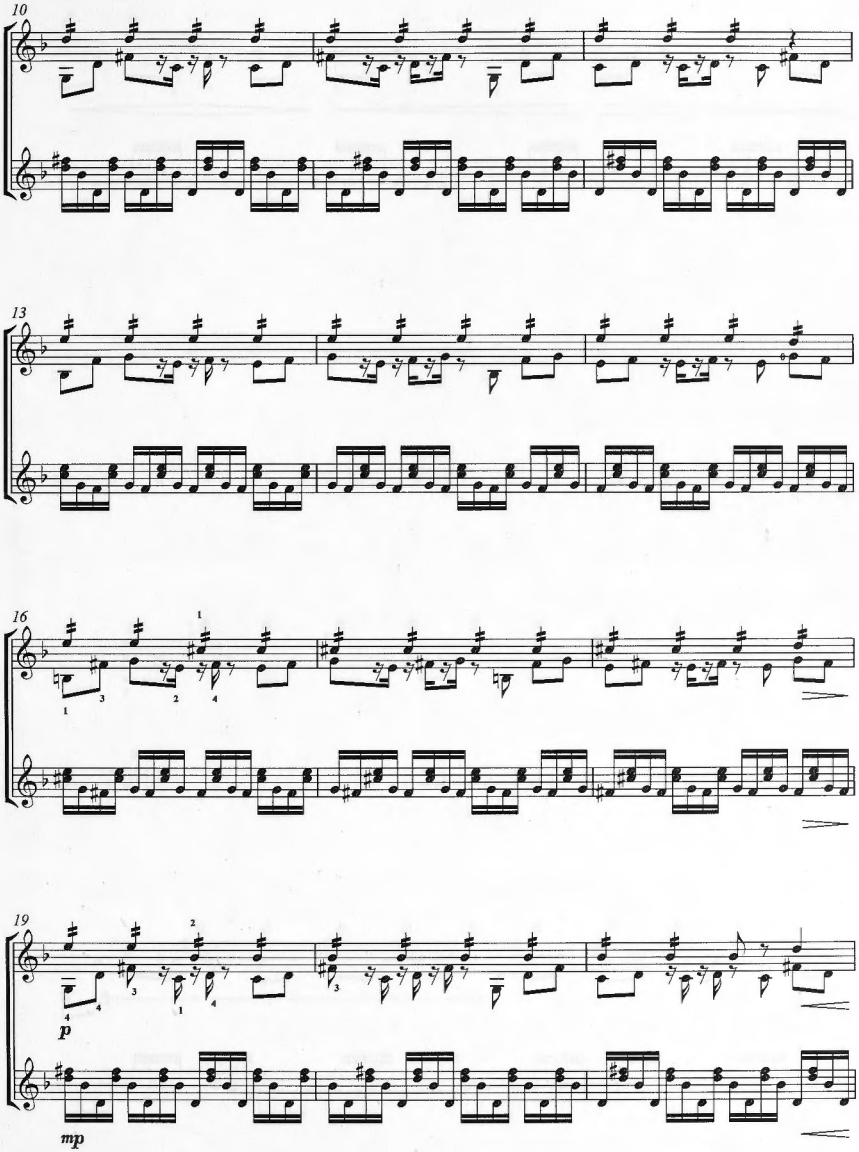
The arrangement for guitar duet of Robert Davidson's quintet *Landscape* forms an important part of this study's research output. The process of making the arrangement facilitated the generation and experimentation of many critical concepts such as for example, the role of fingering in asserting interlinear independence, as well as its influence on sonority. In this way, the arrangement represents original research findings by being not only a tool for the experimentation and generation of new ideas, but also an original creative work in itself (demonstrative of the cyclical nature of this study's practice-led research methodology).

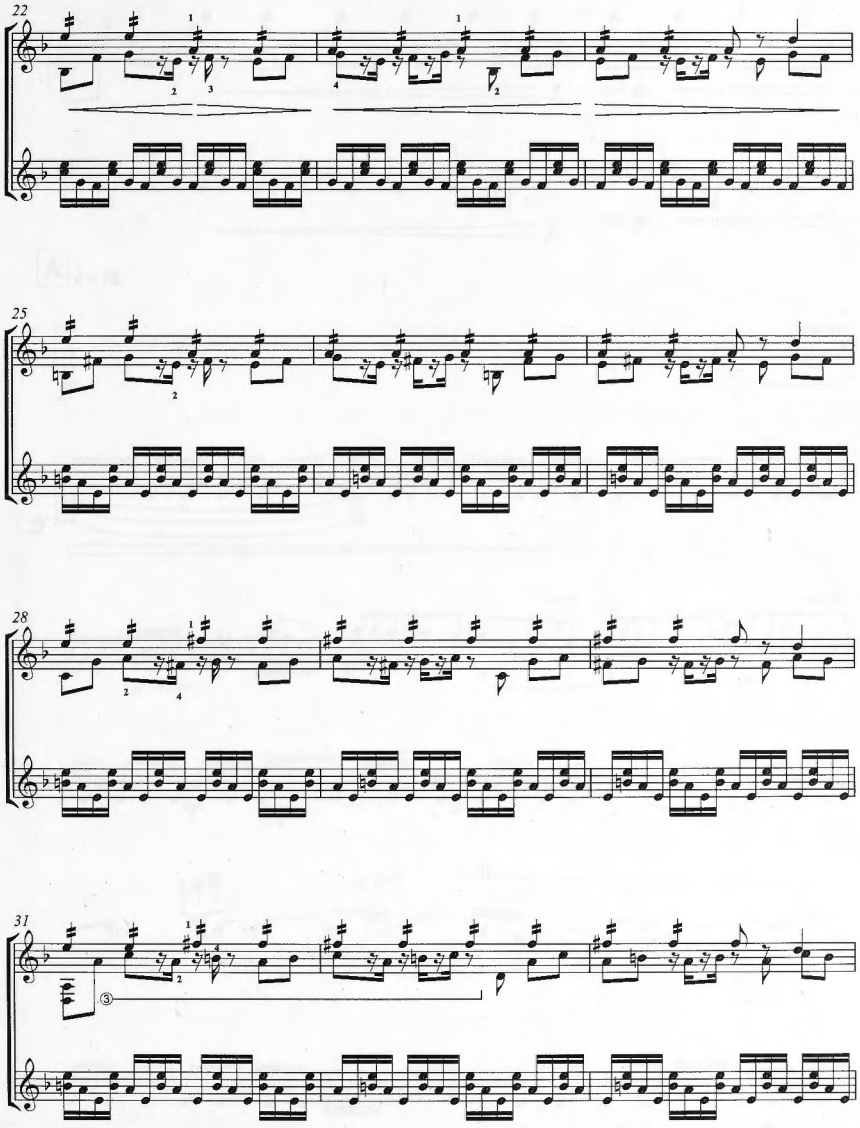
Landscape

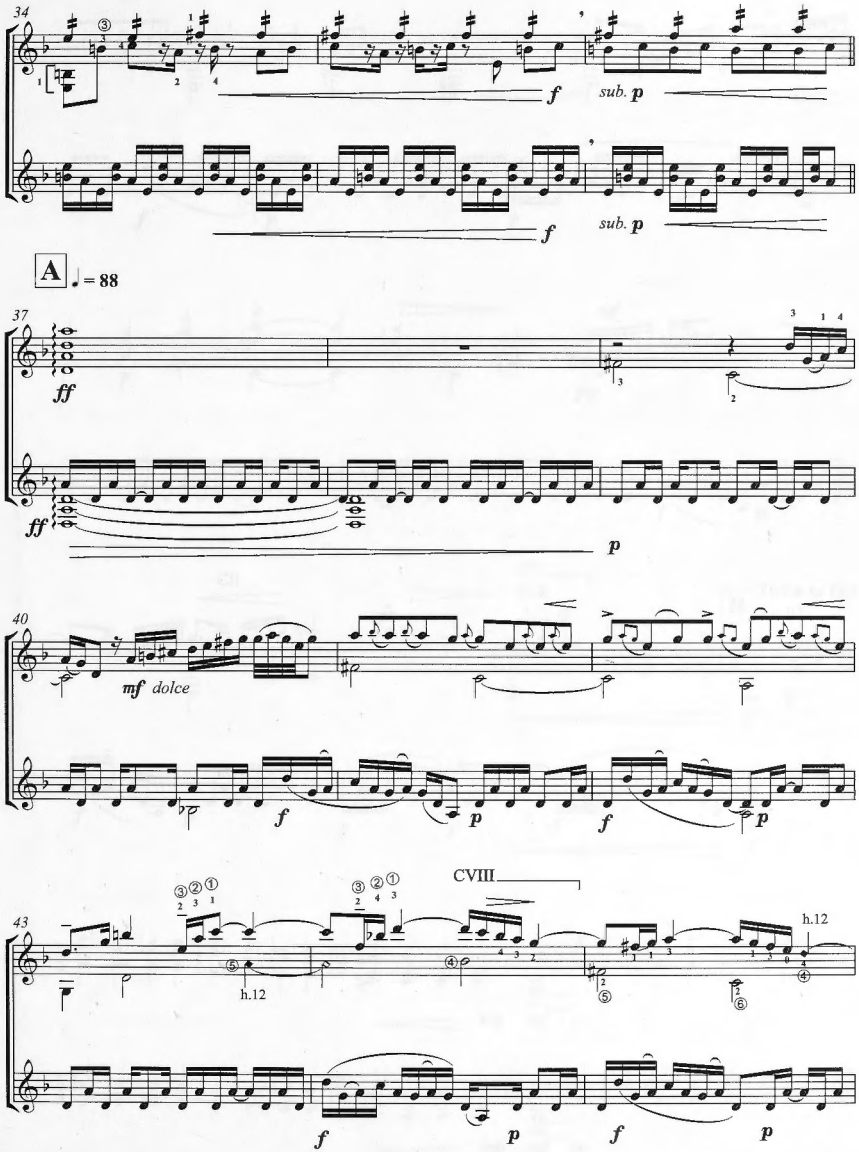
Rhythmic and energetic ♩= 108

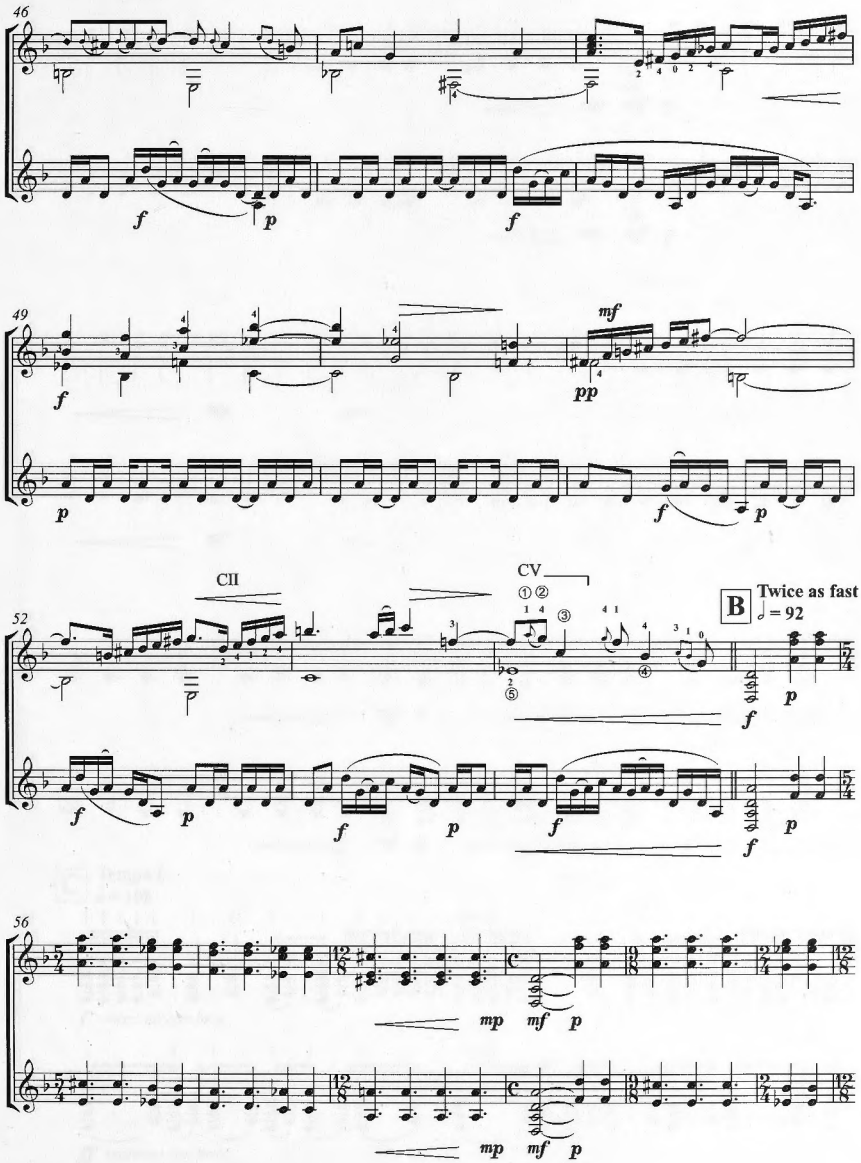
Robert Davidson, arr. Bradley Kunda

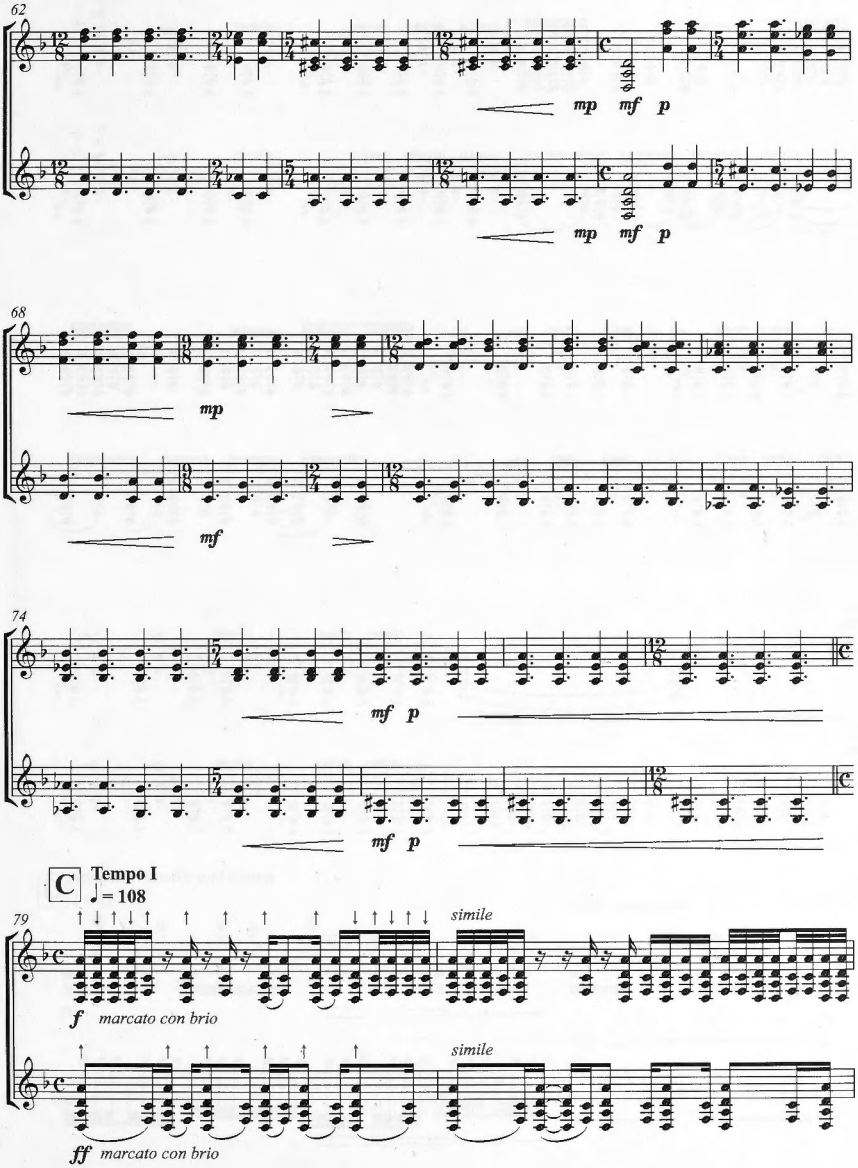


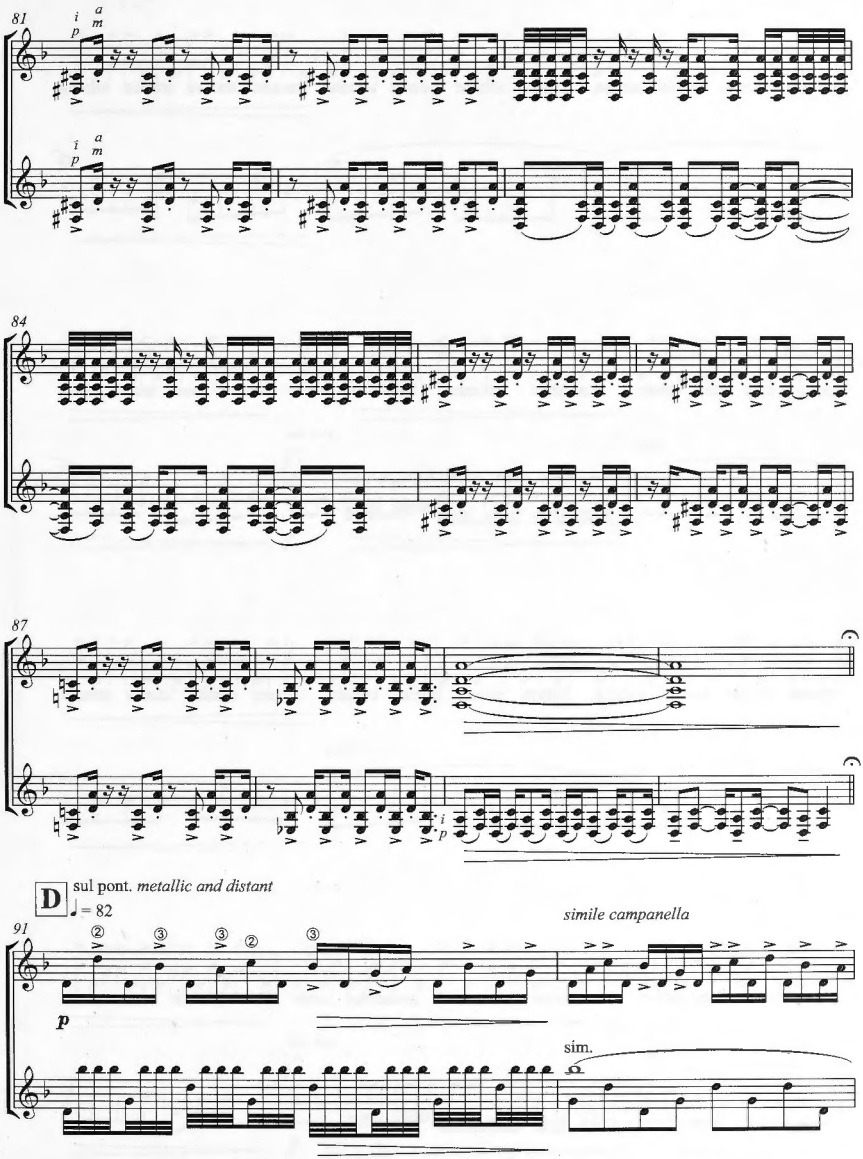

10
13
16
19
p
mp

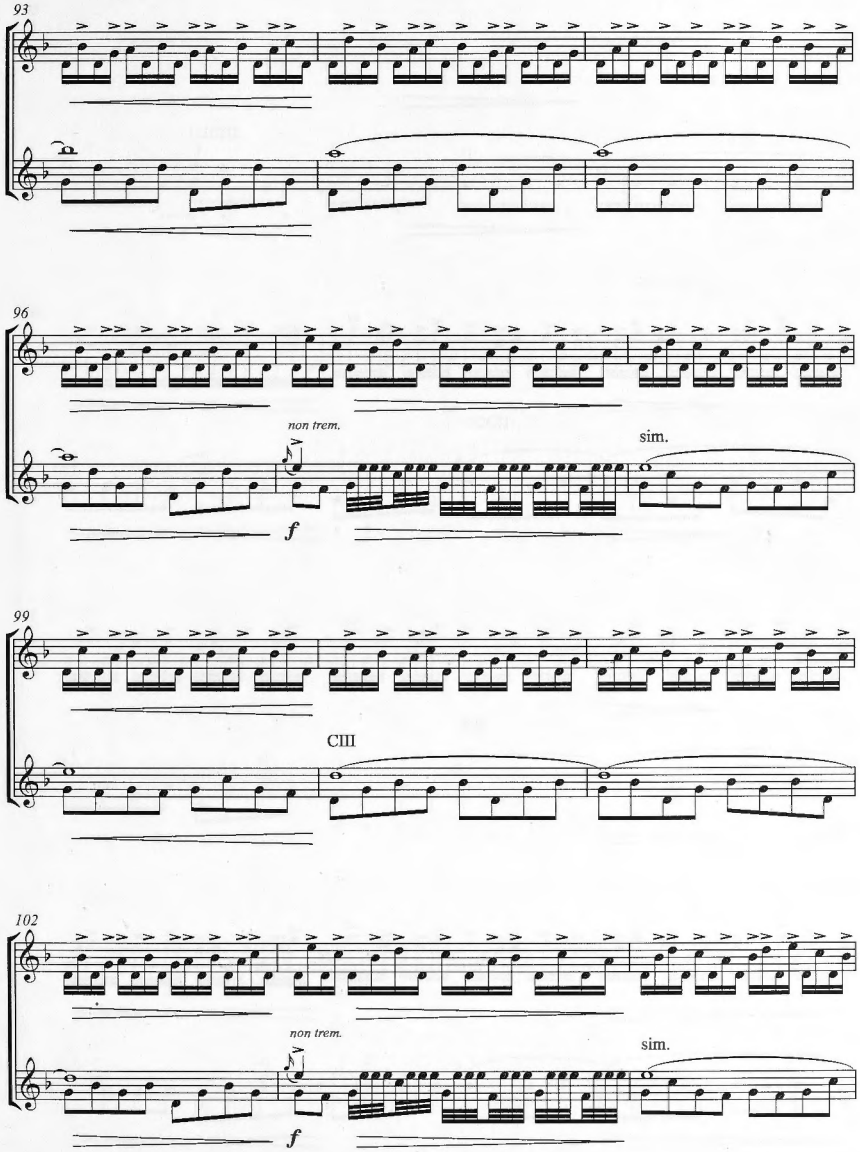

22
25
28
31

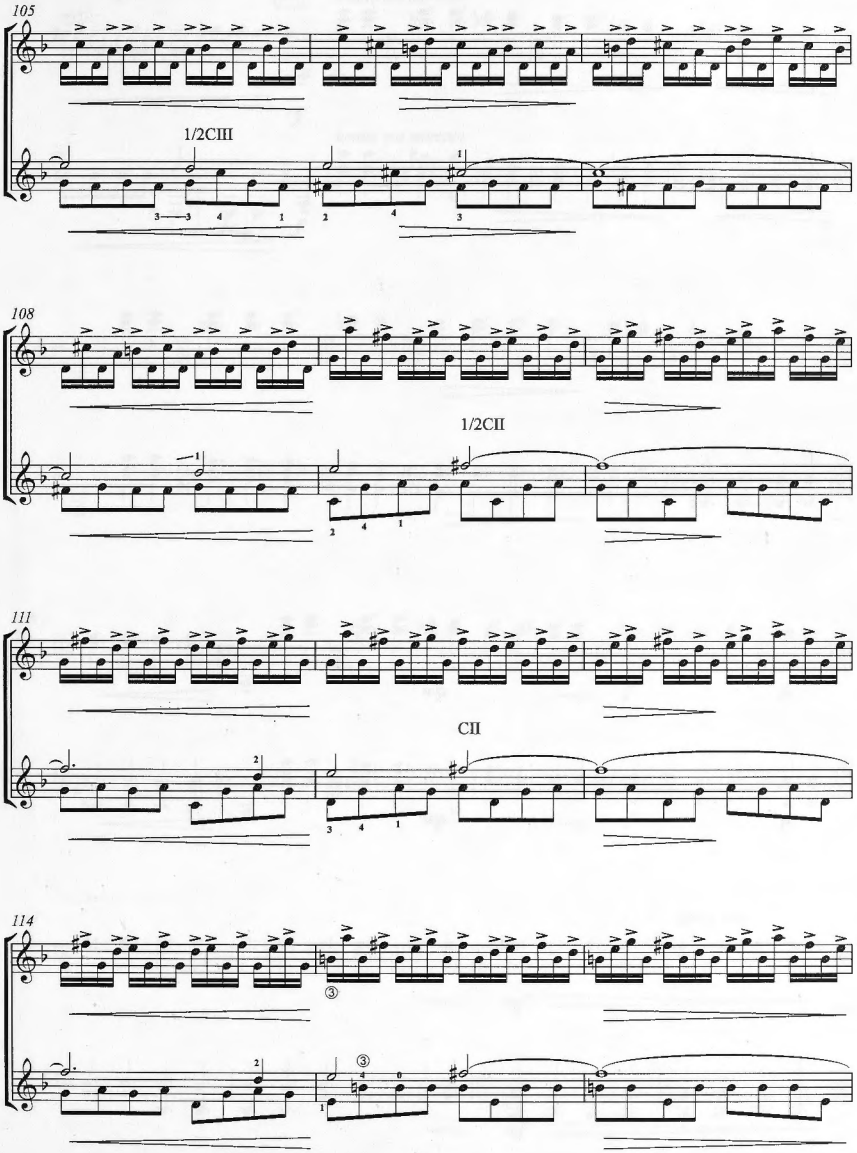

34
f
sub. p
f
sub. p
A
♩ = 88
37
ff
ff
p
40
mf dolce
f
p
f
p
43
h.12
CVIII
h.12
f
p
f
p

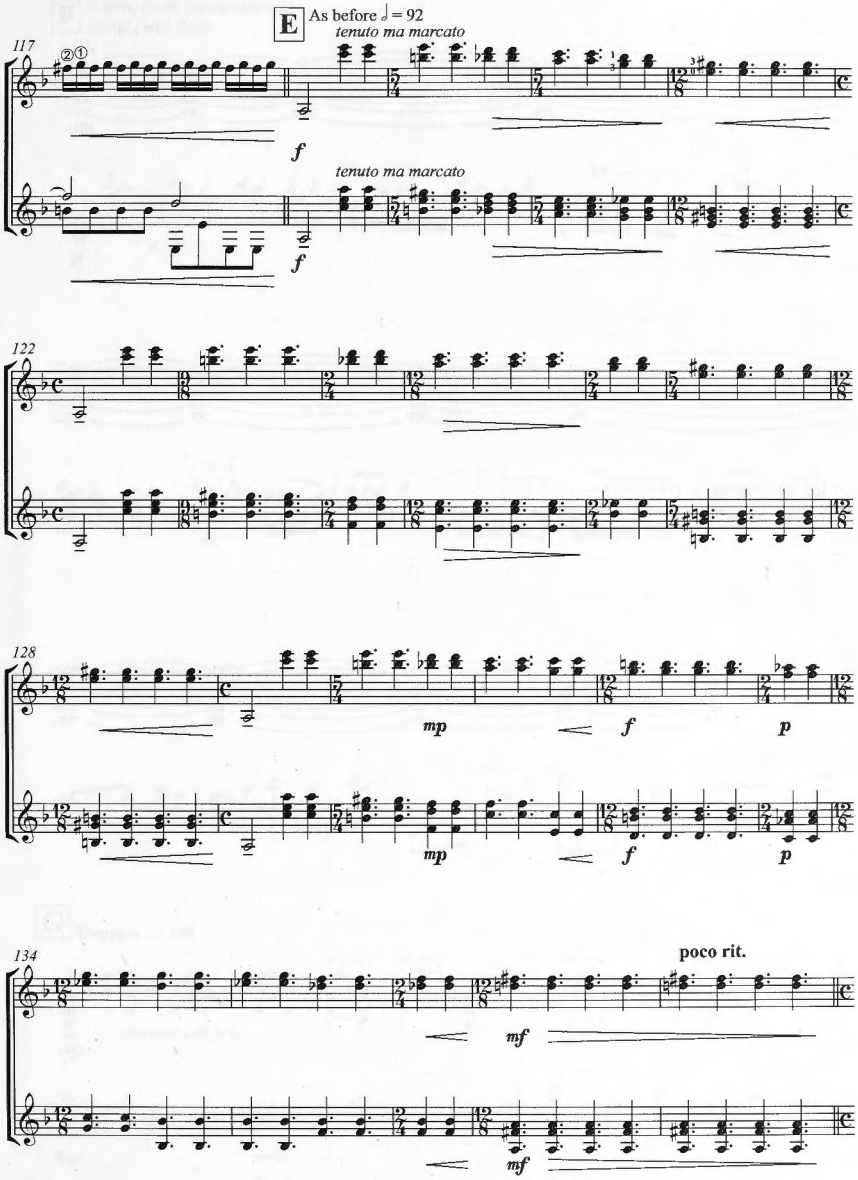

46
f
p
f
49
f
mf
pp
p
f
p
52
CII
CV
B
Twice as fast
♩ = 92
f
p
f
p
f
p
f
p
56
mp
mf
p
mp
mf
p

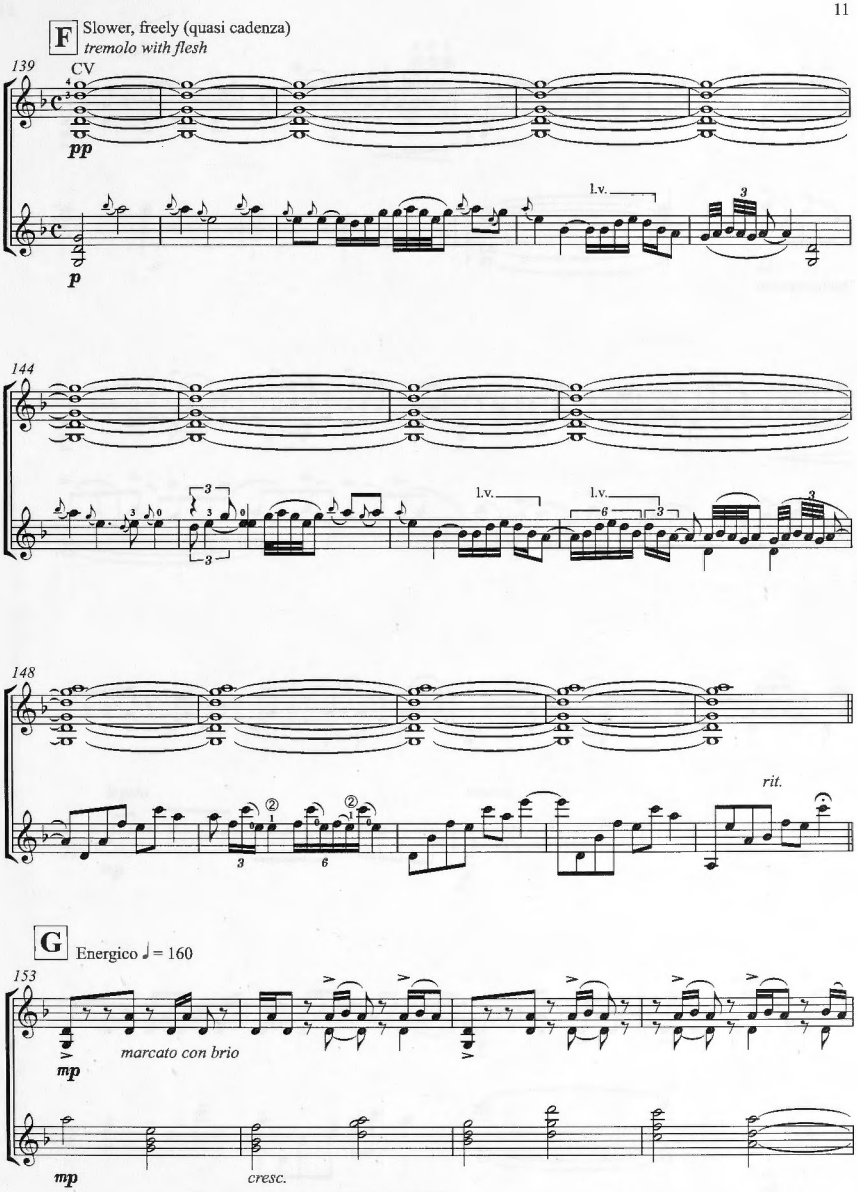

62
mp mf p
mp mf p
68
mp
mf
74
mf p
mf p
C
Tempo I
♩= 108
79
simile
f marcato con brio
simile
ff marcato con brio

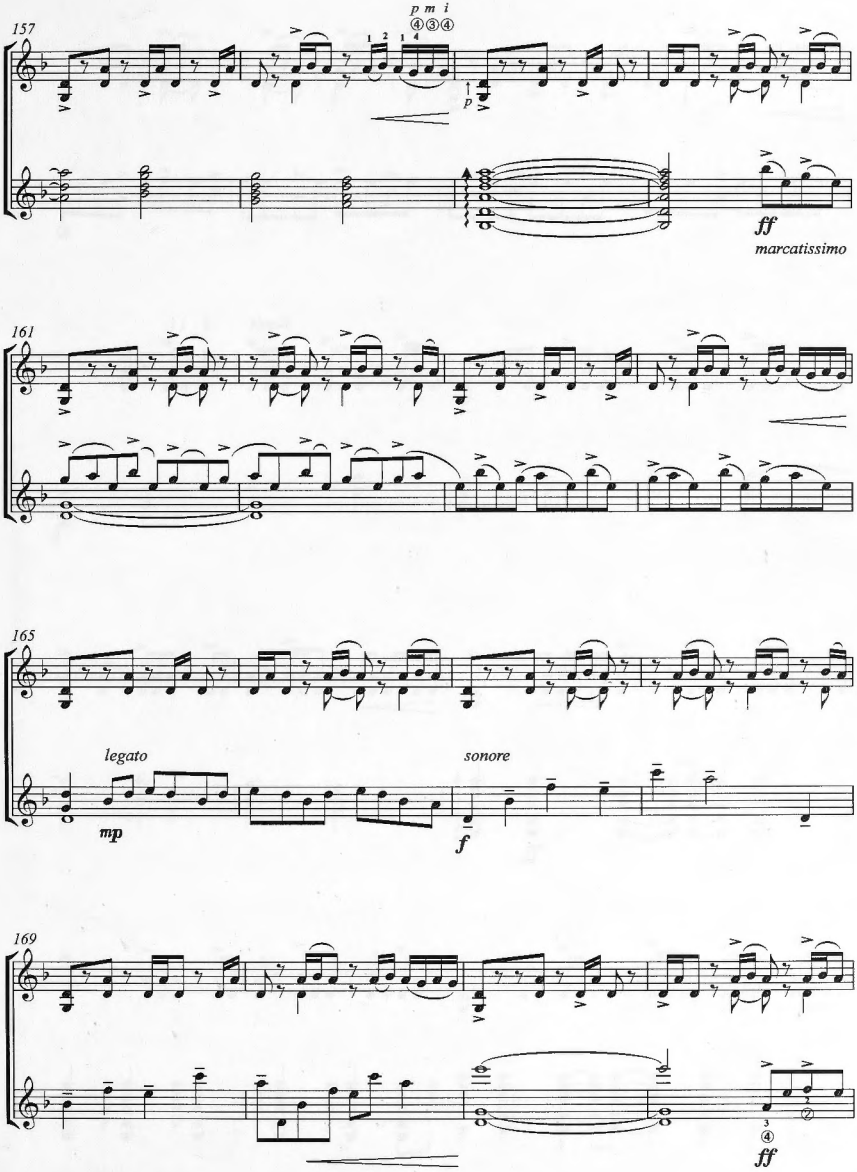

81
i p a m
i p a m
84
87
i p
D
sul pont. metallic and distant
♩ = 82
simile campanella
91
② ③ ③ ② ③
p
sim.

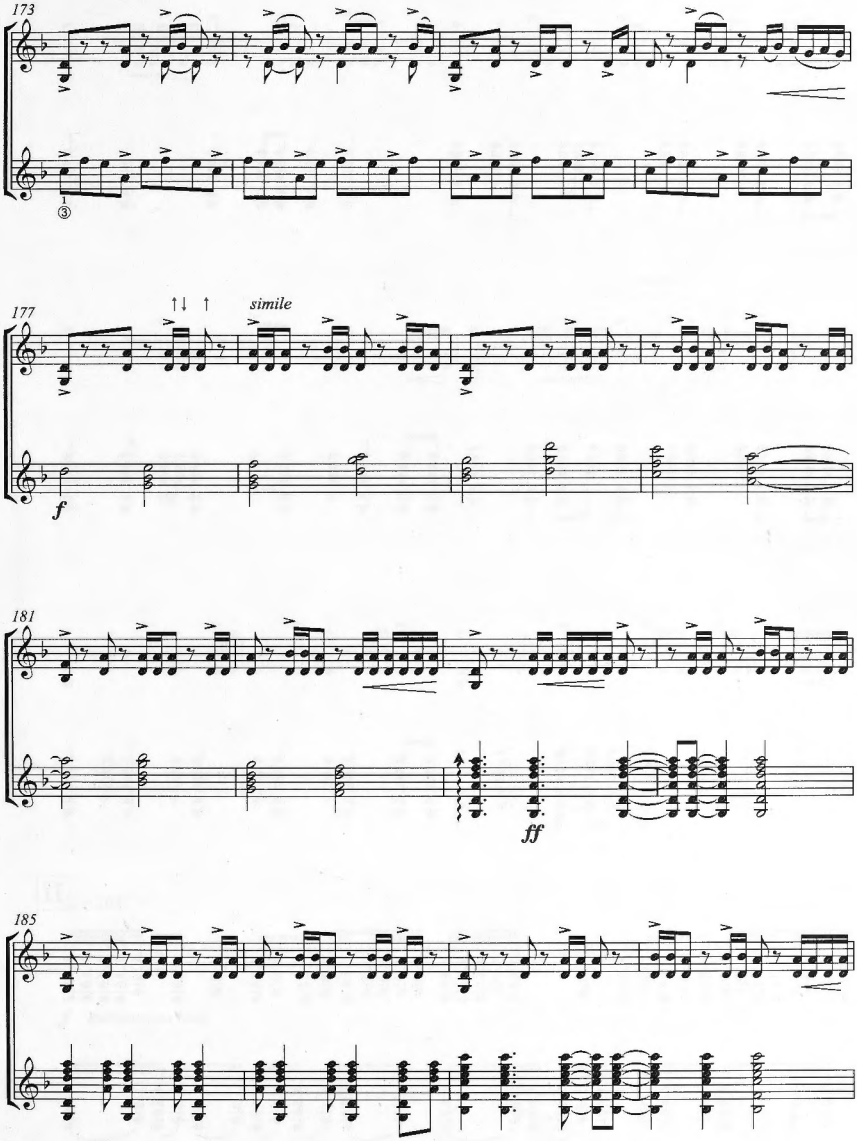

93
96
non trem.
sim.
f
99
CIII
102
non trem.
sim.
f

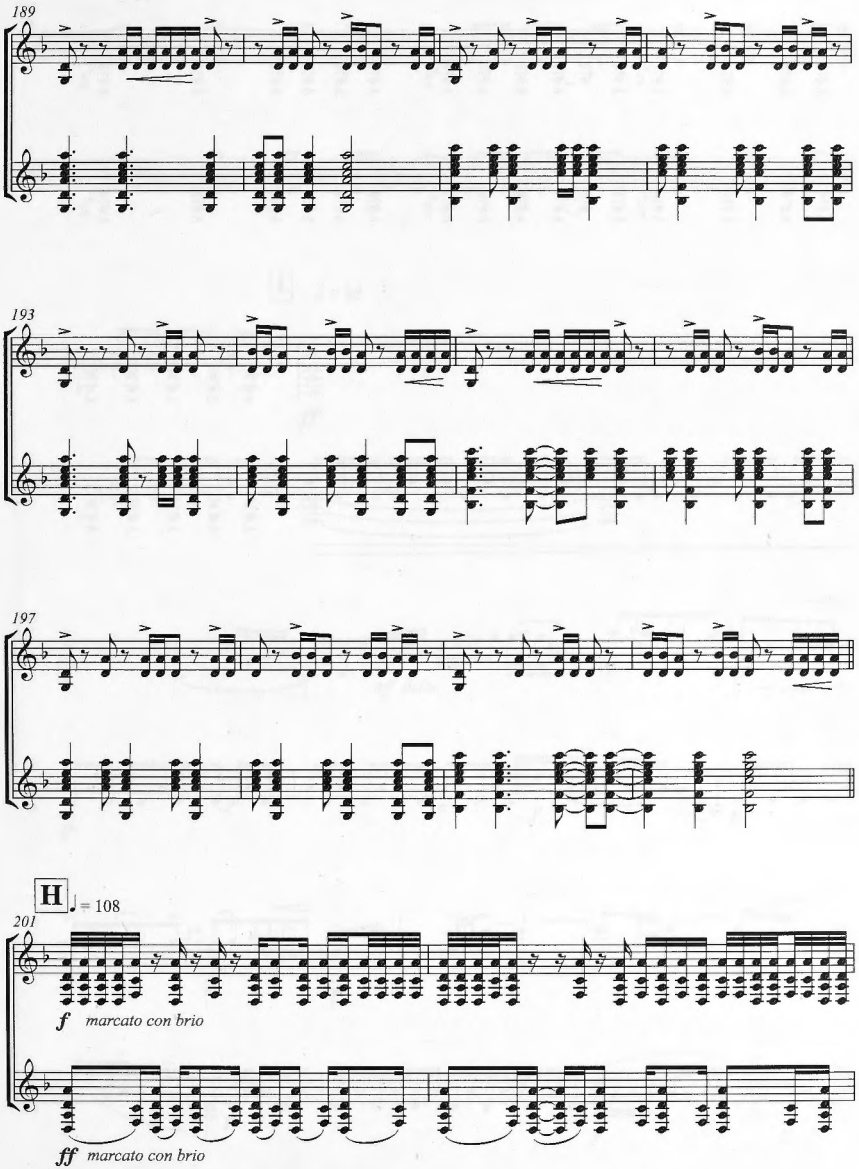

105
1/2CIII
108
1/2CII
111
CII
114

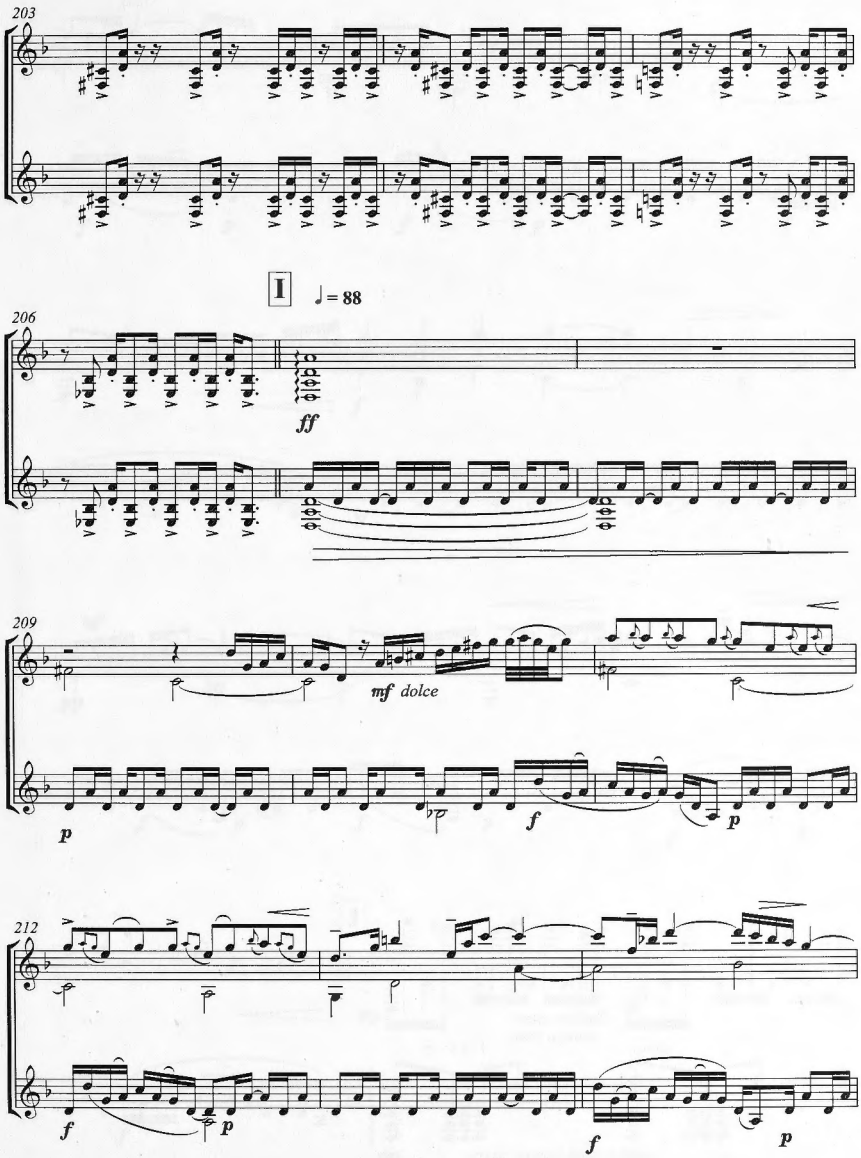

E
As before ♩ = 92
117
tenuto ma marcato
f
tenuto ma marcato
f
122
128
mp
f
p
mp
f
p
134
poco rit.
mf
mf

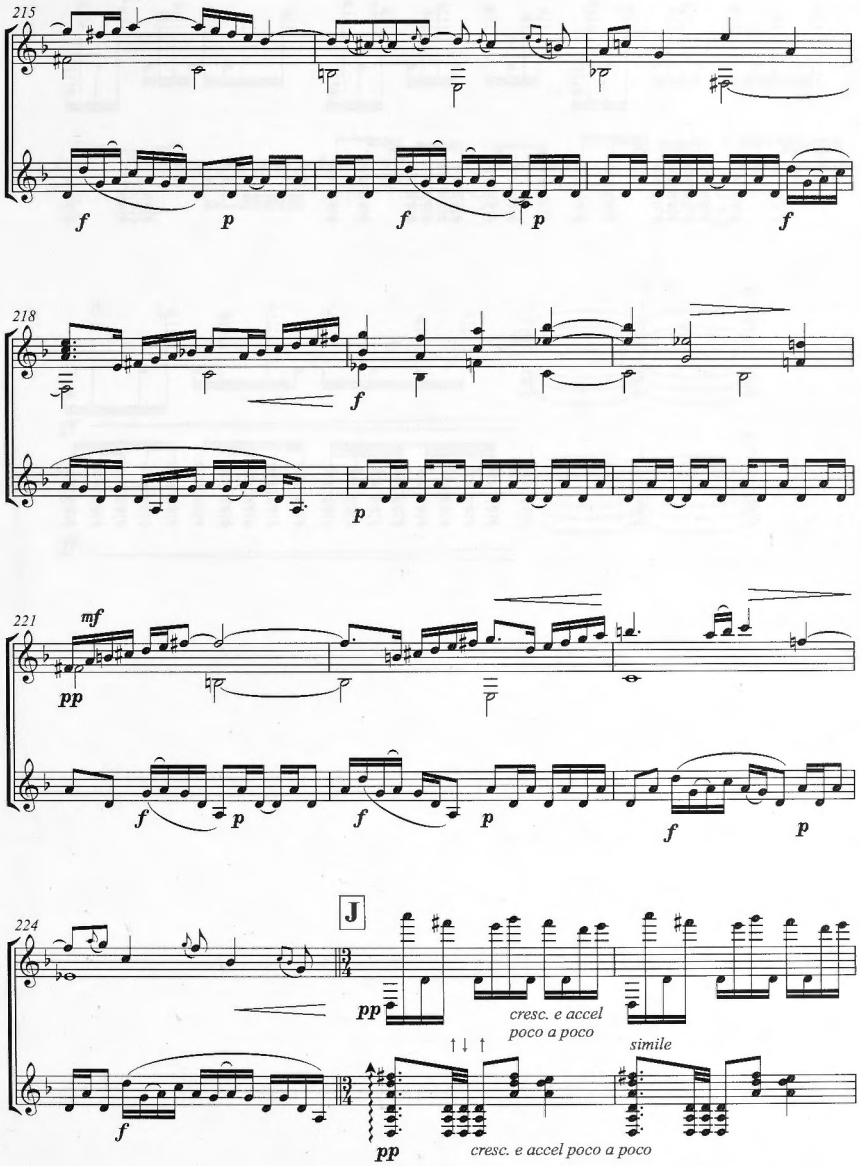

F
Slower, freely (quasi cadenza)
tremolo with flesh
139
CV
pp
p
l.v.
144
l.v.
l.v.
148
rit.
G
Energico ♩ = 160
153
marcato con brio
mp
mp
cresc.

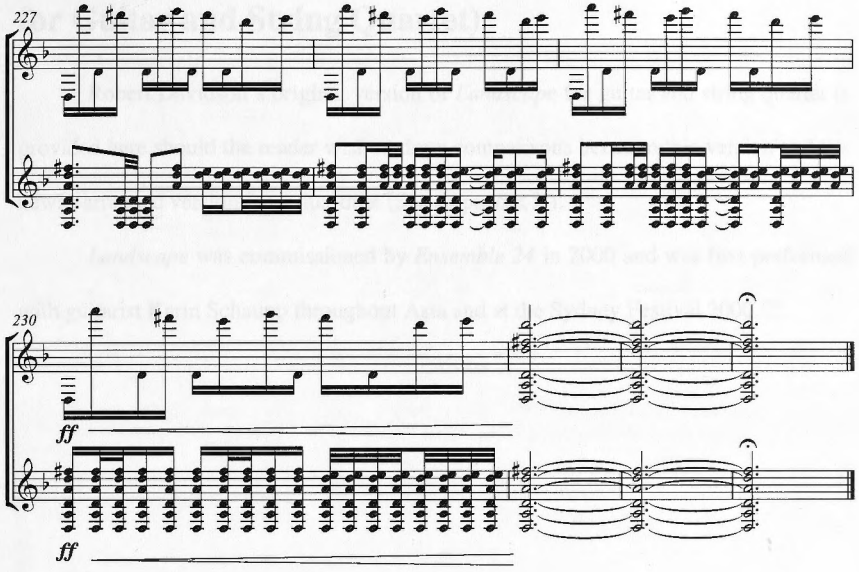

157
p m i
ff
marcatissimo
161
165
legato
mp
sonore
f
169
ff


173
177
simile
f
181
ff
185


189
193
197
H
♩ = 108
201
f marcato con brio
ff marcato con brio


203
I
♩= 88
206
ff
209
mf dolce
p
f
p
212
f
p
f
p


215
f
p
f
p
f
218
f
p
221
mf
pp
f
p
f
p
f
p
224
J
pp
cresc. e accel
poco a poco
simile
f
pp
cresc. e accel poco a poco


227
230
ff
ff

Appendix E: Full Score – *Landscape* (Original Version for Guitar and String Quartet)

Robert Davidson's original version of *Landscape* for guitar and string quartet is provided here should the reader wish to draw comparisons between this version and the newly-arranged version for guitar duet (See Appendix D).

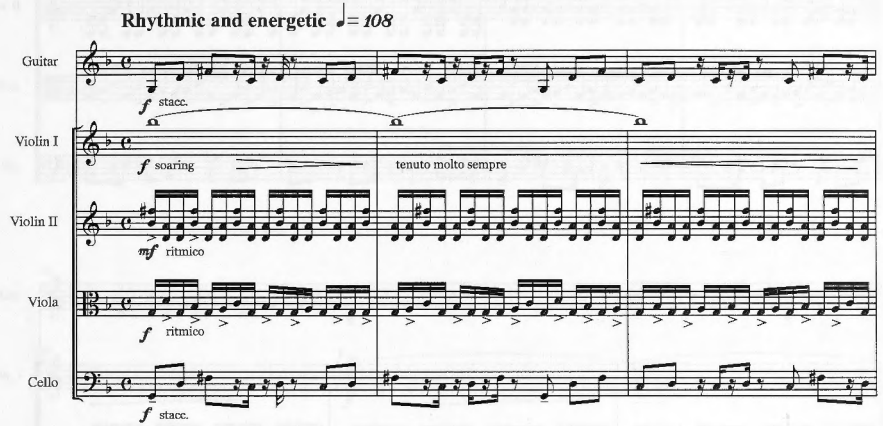
Landscape was commissioned by *Ensemble 24* in 2000 and was first performed with guitarist Karin Schaupp throughout Asia and at the Sydney Festival 2000.[183]

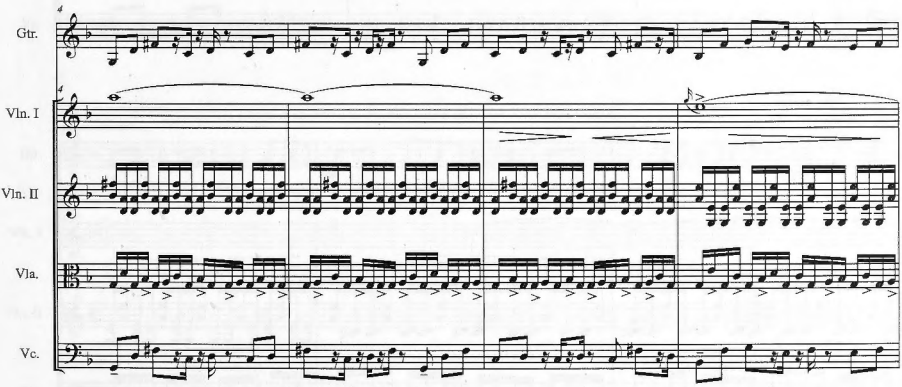
[183] Australian Music Centre, 'Landscape: for guitar and string quartet', <http://www.australianmusiccentre.com.au/workversiou/davidson-robert-landscape/12421>, accessed 28 November 2012.

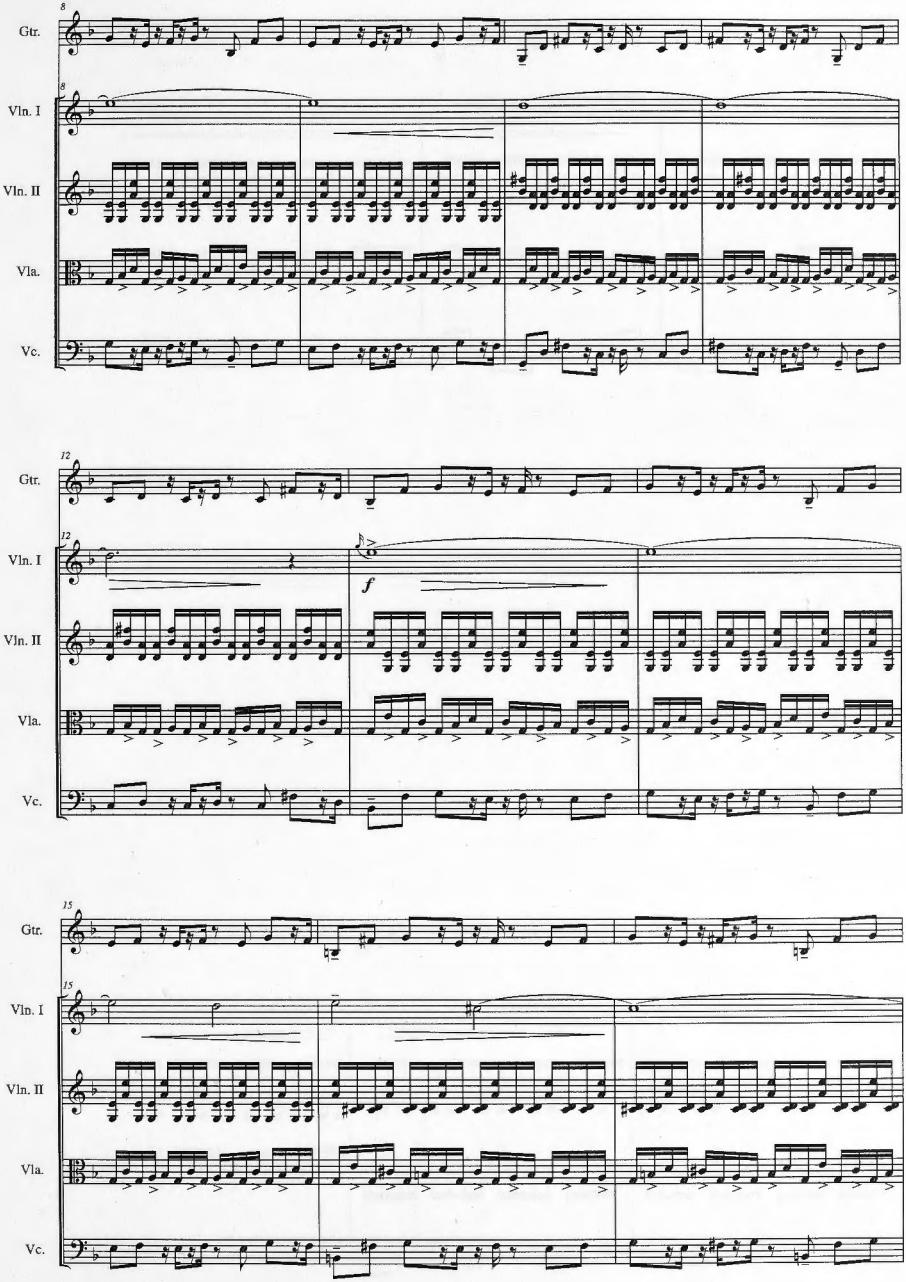
Score

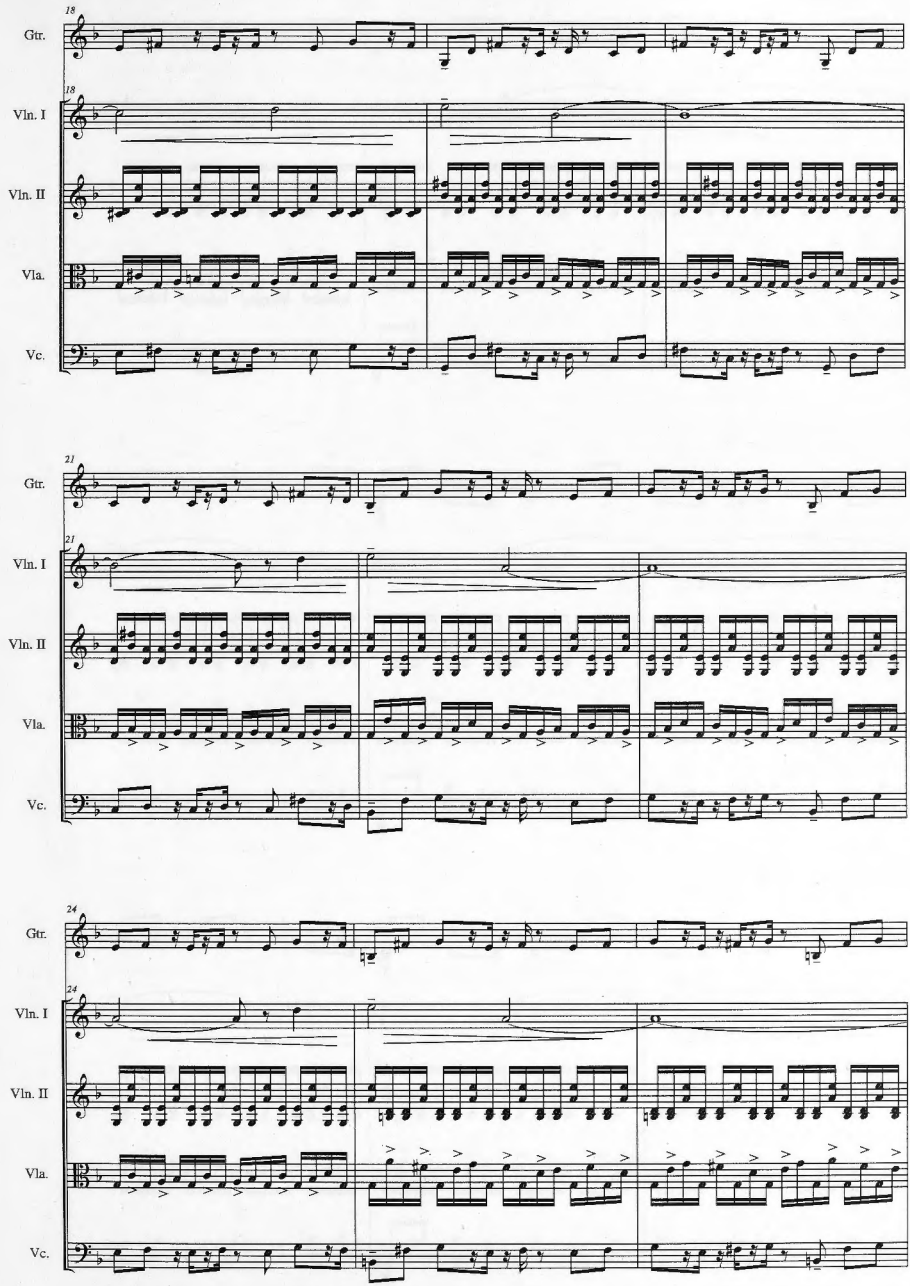
Landscape

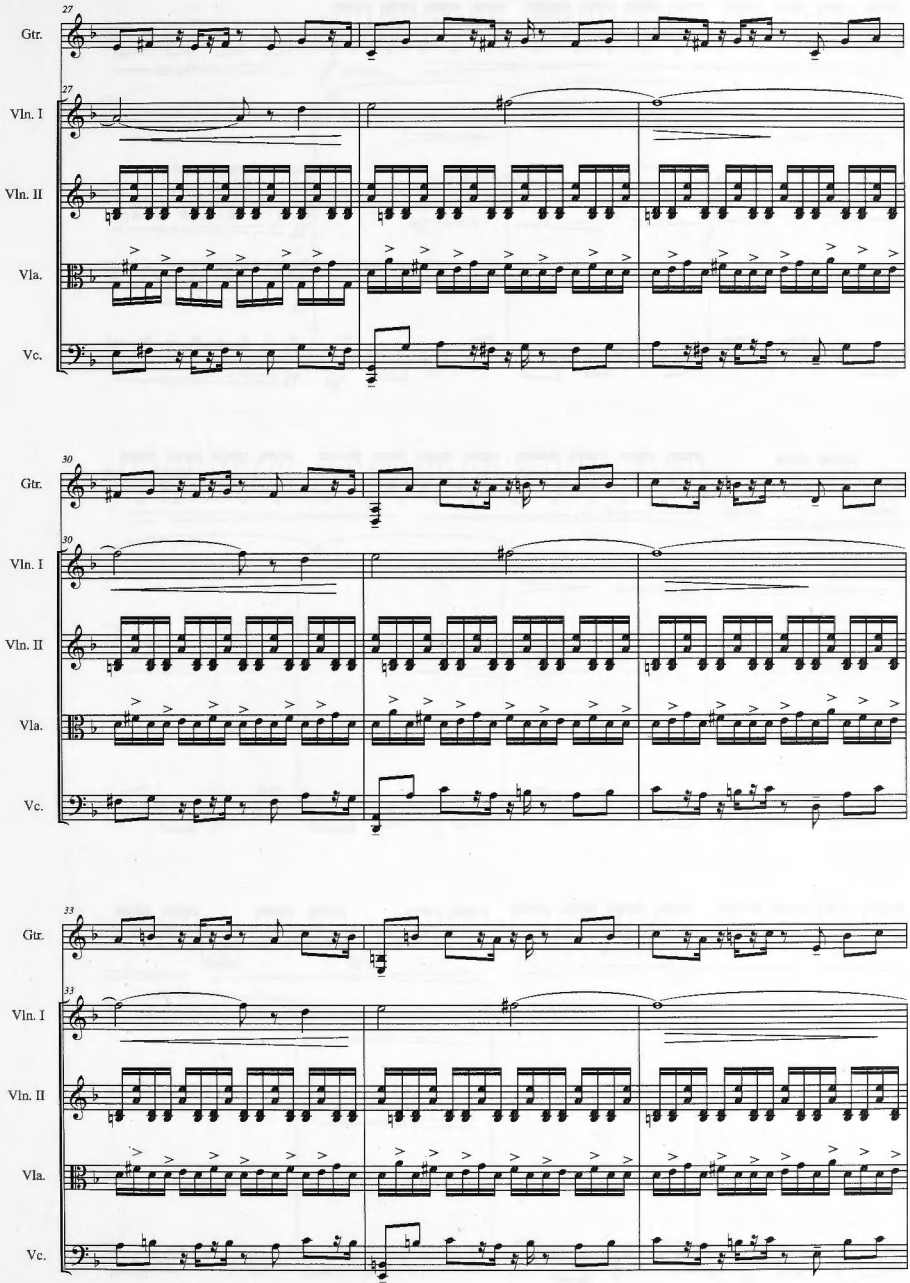
Robert Davidson

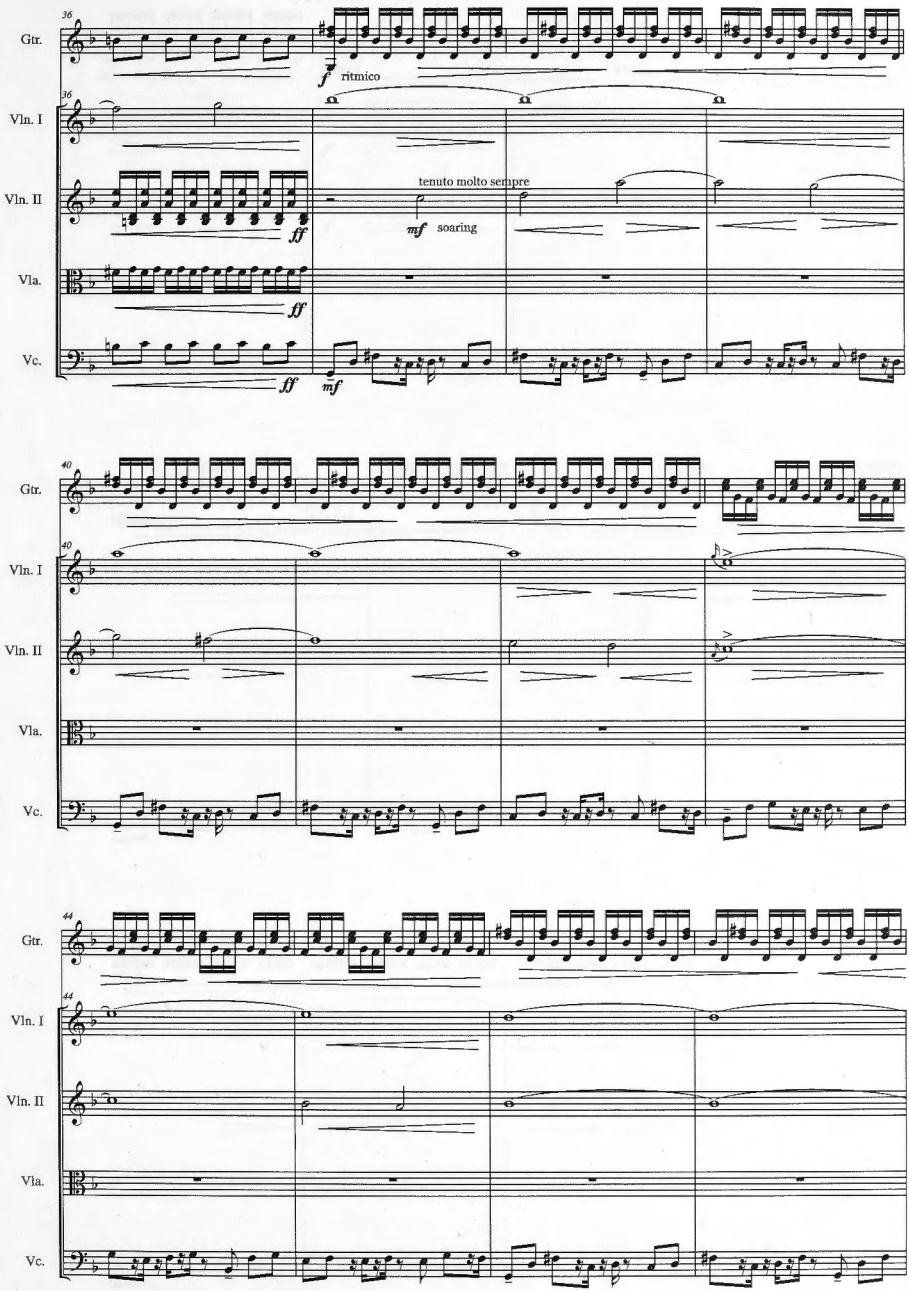


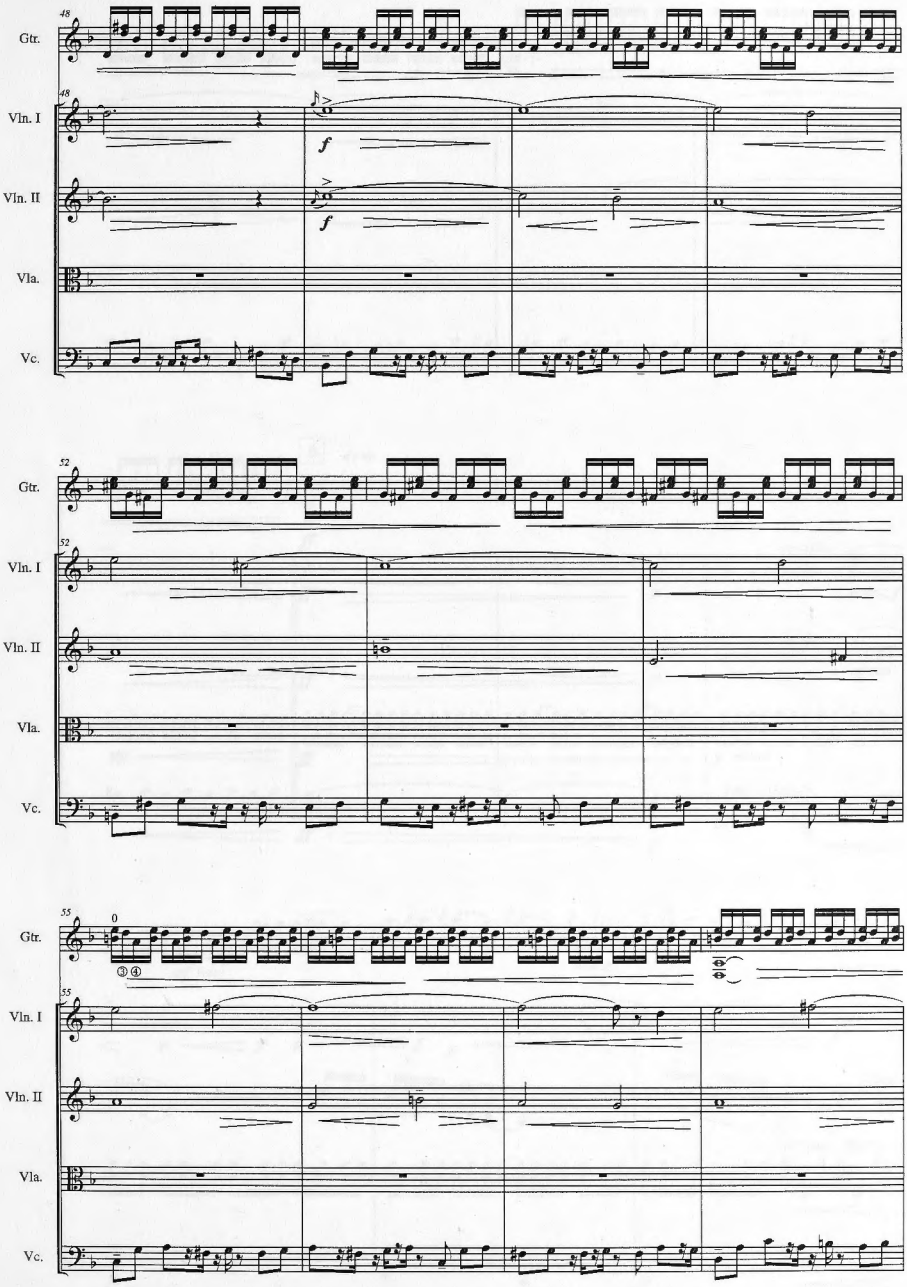


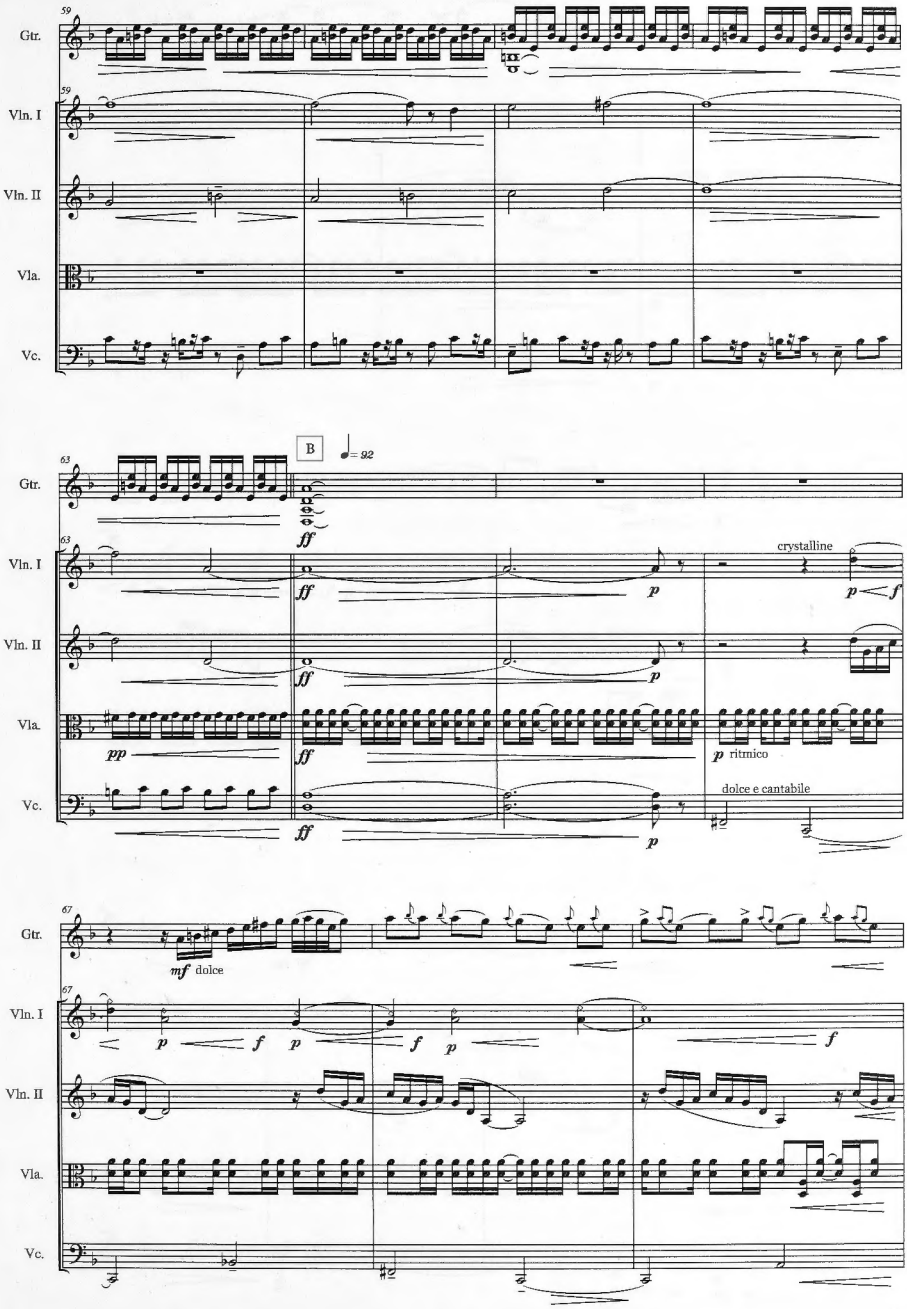

8
Gtr.
8
Vln. I
Vln. II
Vla.
Vc.
12
Gtr.
12
Vln. I
f
Vln. II
Vla.
Vc.
15
Gtr.
15
Vln. I
Vln. II
Vla.
Vc.

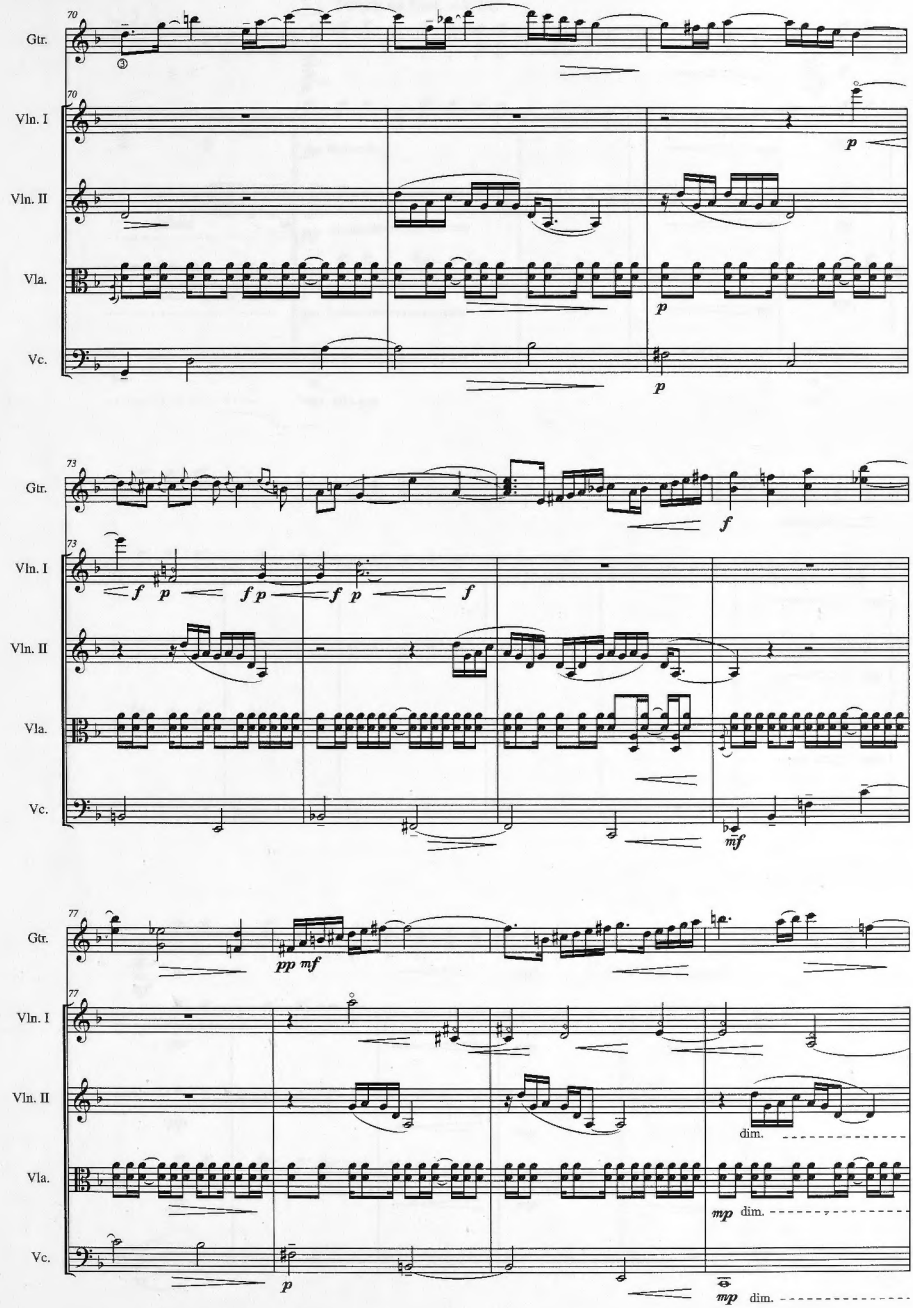

18
Gtr.
18
Vln. I
Vln. II
Vla.
Vc.
21
Gtr.
21
Vln. I
Vln. II
Vla.
Vc.
24
Gtr.
24
Vln. I
Vln. II
Vla.
Vc.

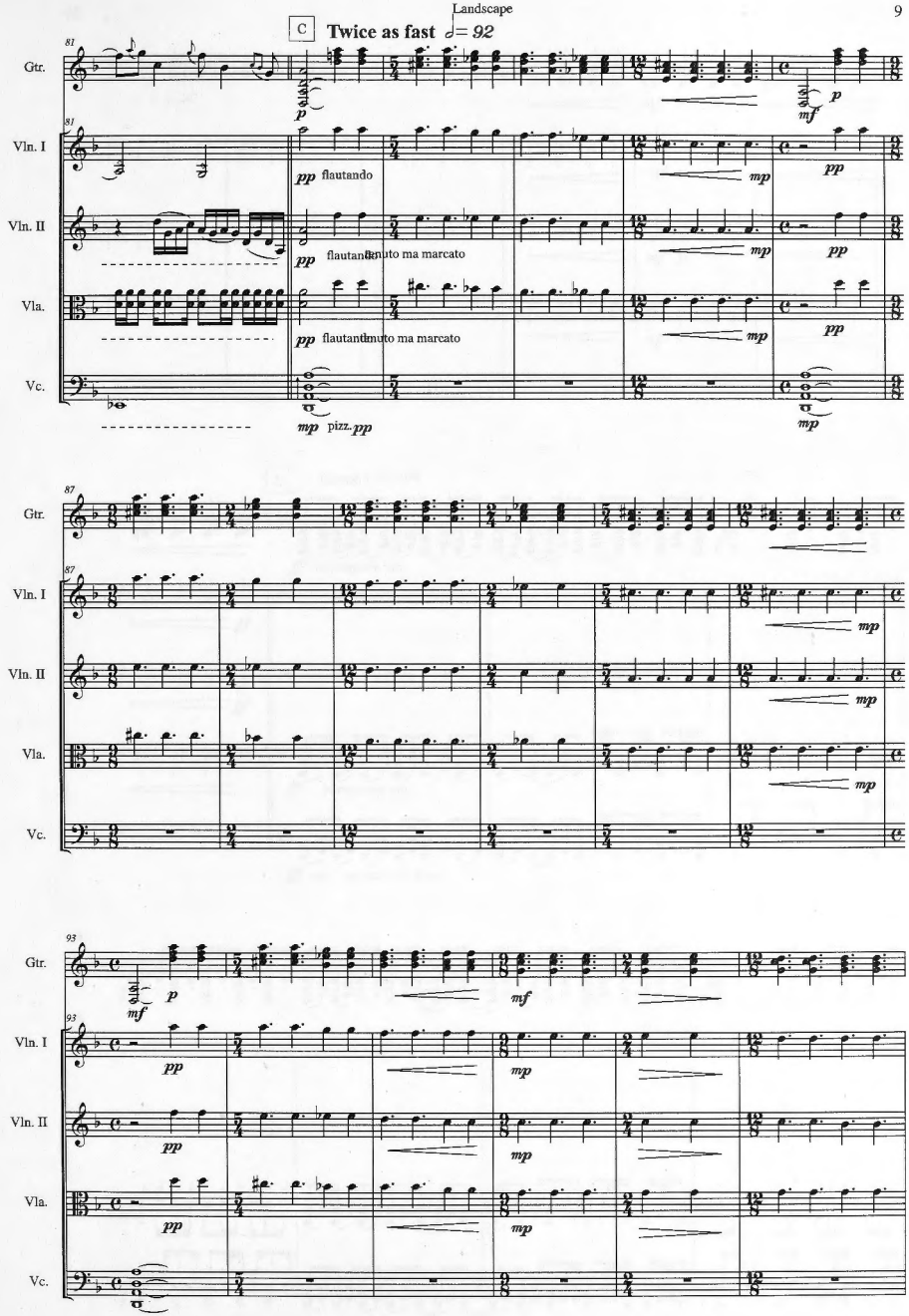

27
Gtr.
27
Vln. I
Vln. II
Vla.
Vc.
30
Gtr.
30
Vln. I
Vln. II
Vla.
Vc.
33
Gtr.
33
Vln. I
Vln. II
Vla.
Vc.

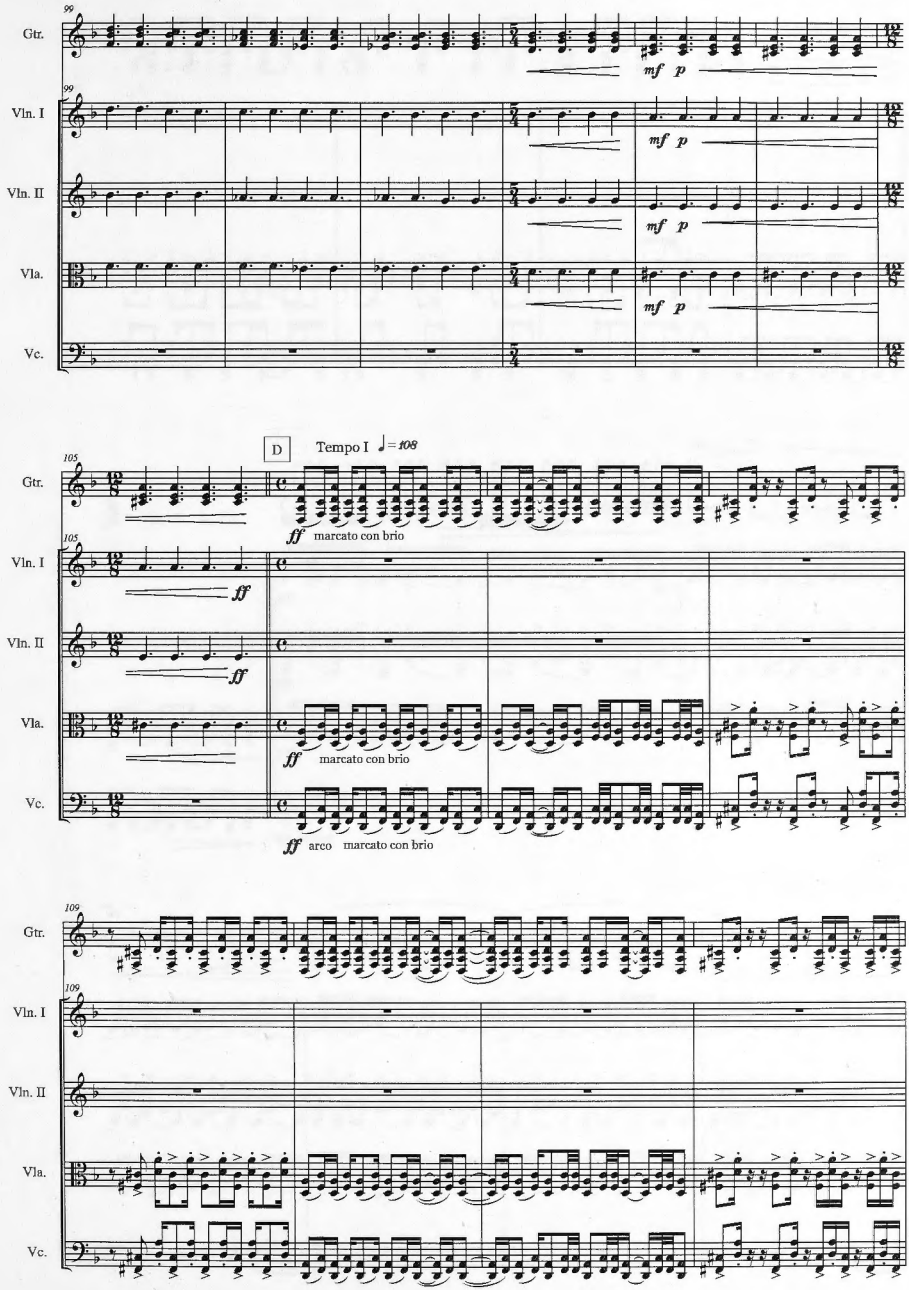

36
Gtr.
f ritmico
Vln. I
Vln. II
ff
tenuto molto sempre
mf soaring
Vla.
ff
Vc.
ff
mf
40
Gtr.
Vln. I
Vln. II
Vla.
Vc.
44
Gtr.
Vln. I
Vln. II
Vla.
Vc.

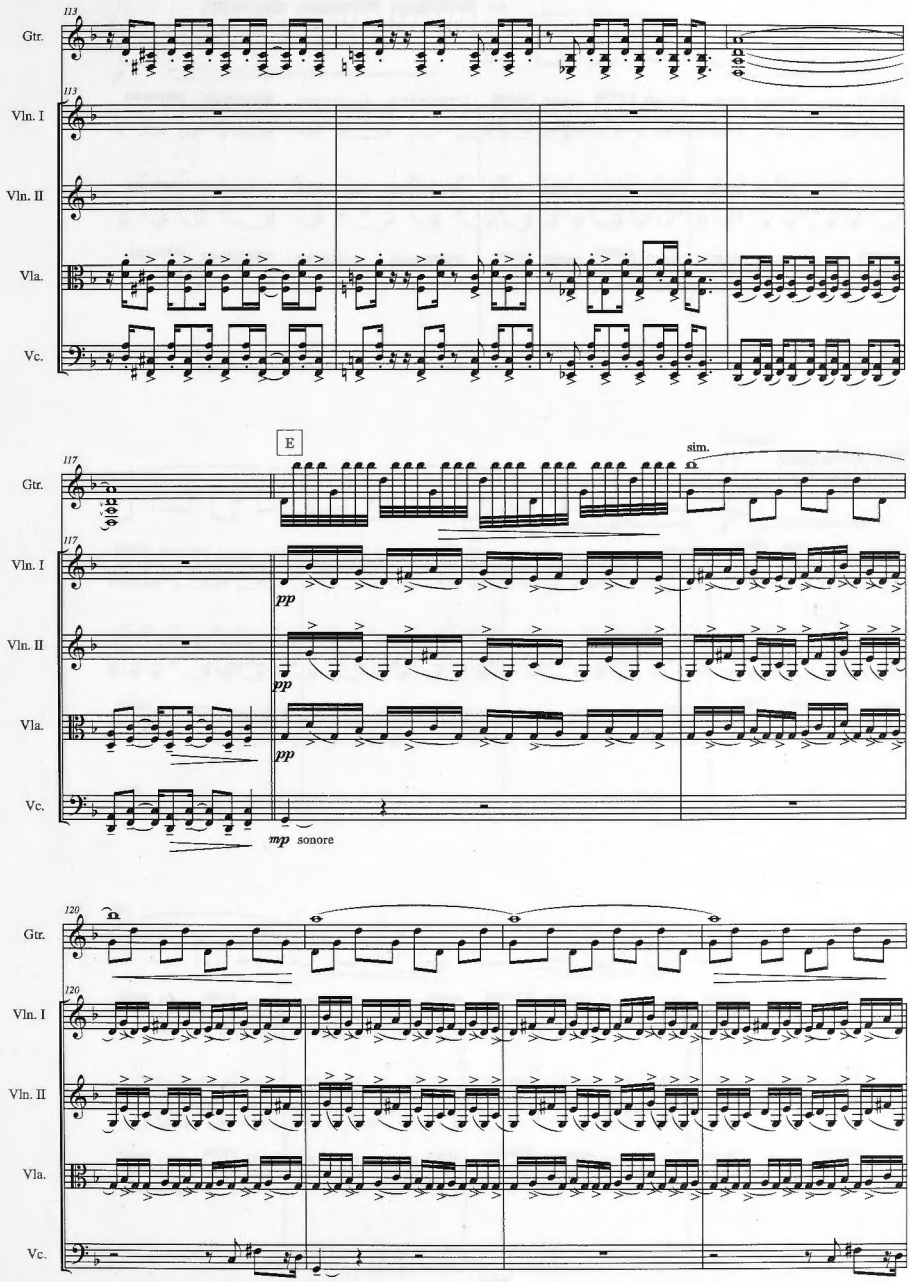

48
Gtr.
Vln. I
Vln. II
Vla.
Vc.
f
f
52
Gtr.
Vln. I
Vln. II
Vla.
Vc.
55
0
③④
Gtr.
Vln. I
Vln. II
Vla.
Vc.

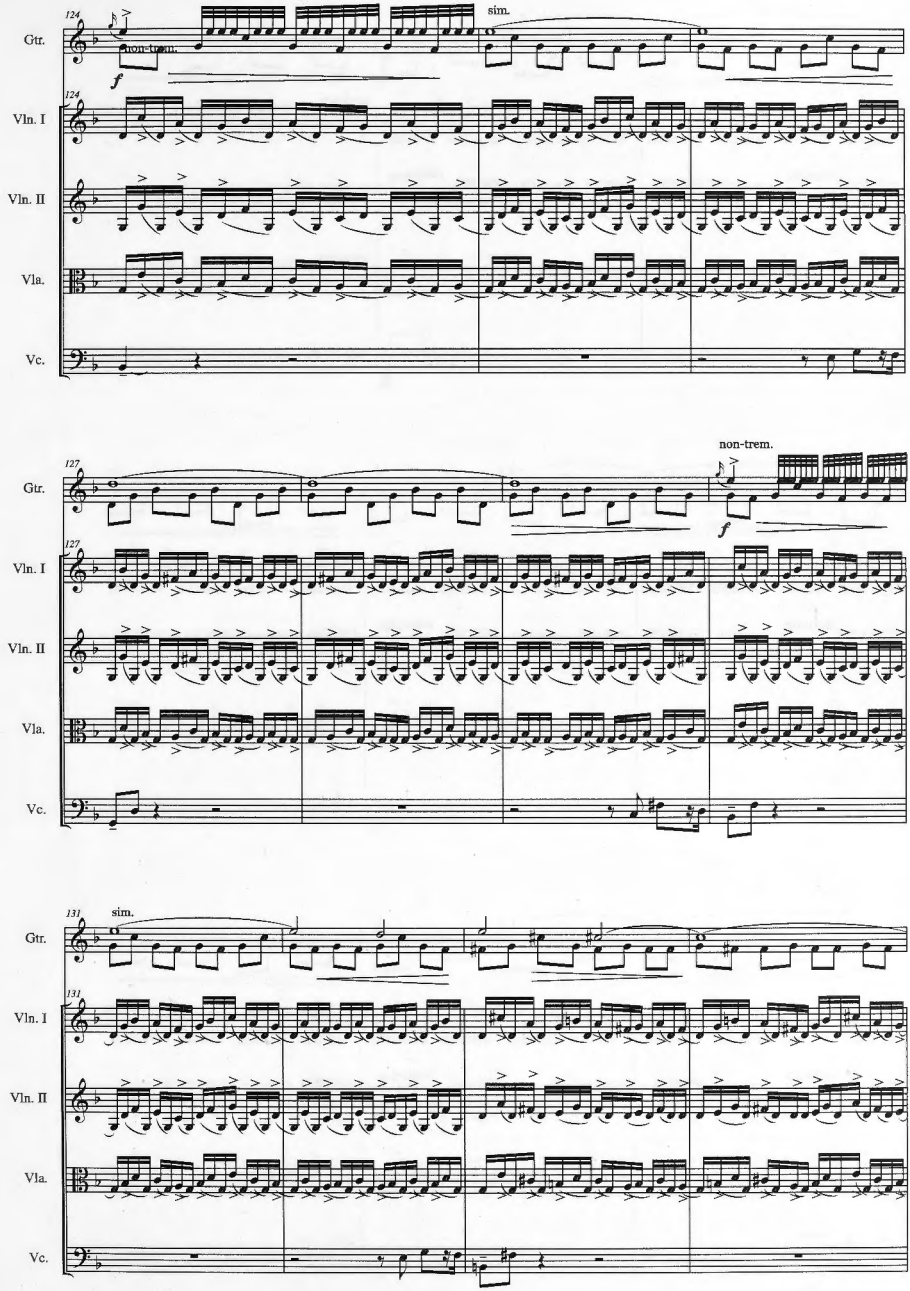

59
Gtr.
Vln. I
Vln. II
Vla.
Vc.
63
B
♩= 92
ff
pp
p
crystalline
f
ritmico
dolce e cantabile
67
mf dolce

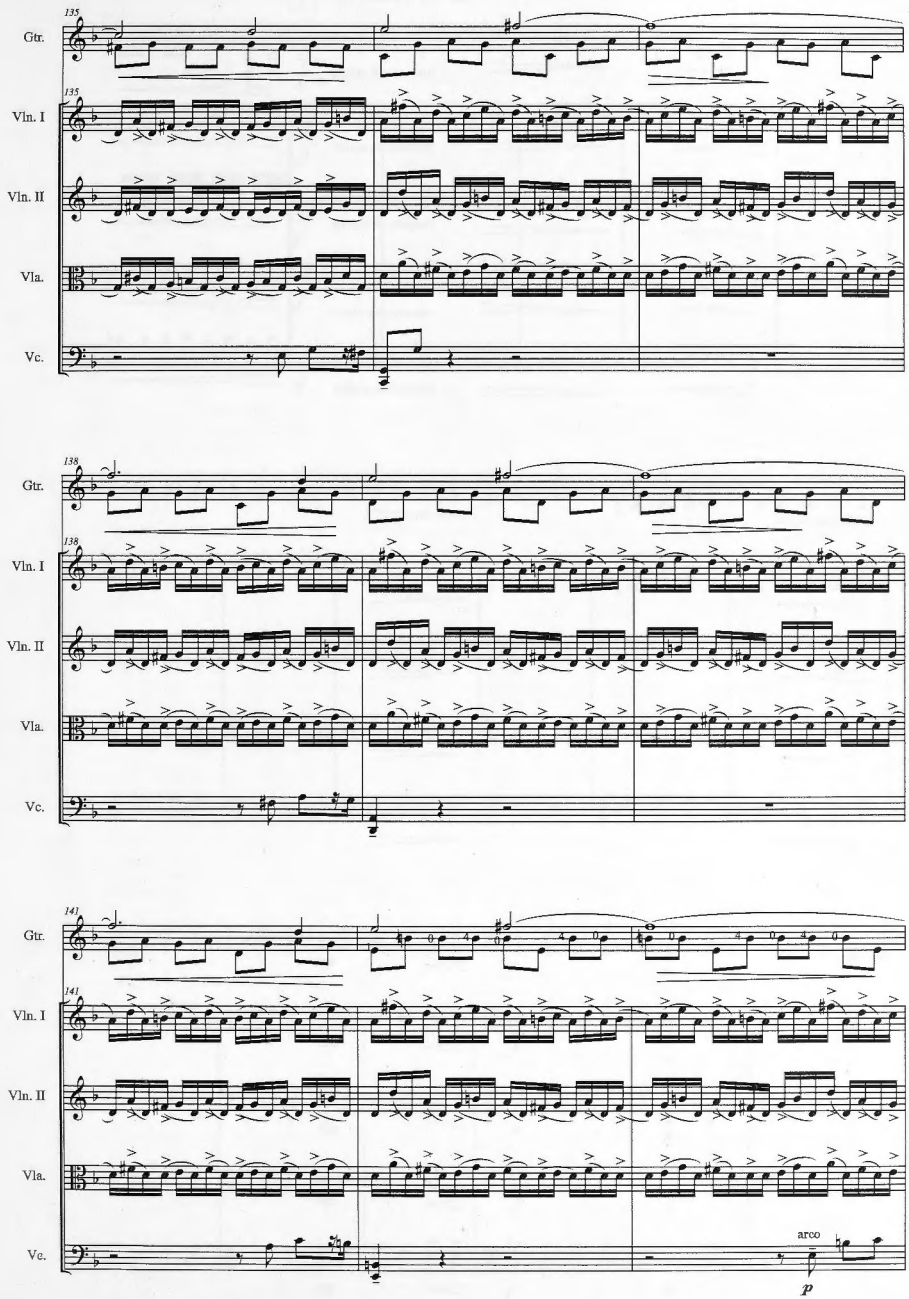

70
Gtr.
Vln. I
Vln. II
Vla.
Vc.
p
73
f
mf
77
pp mf
dim.
mp dim.

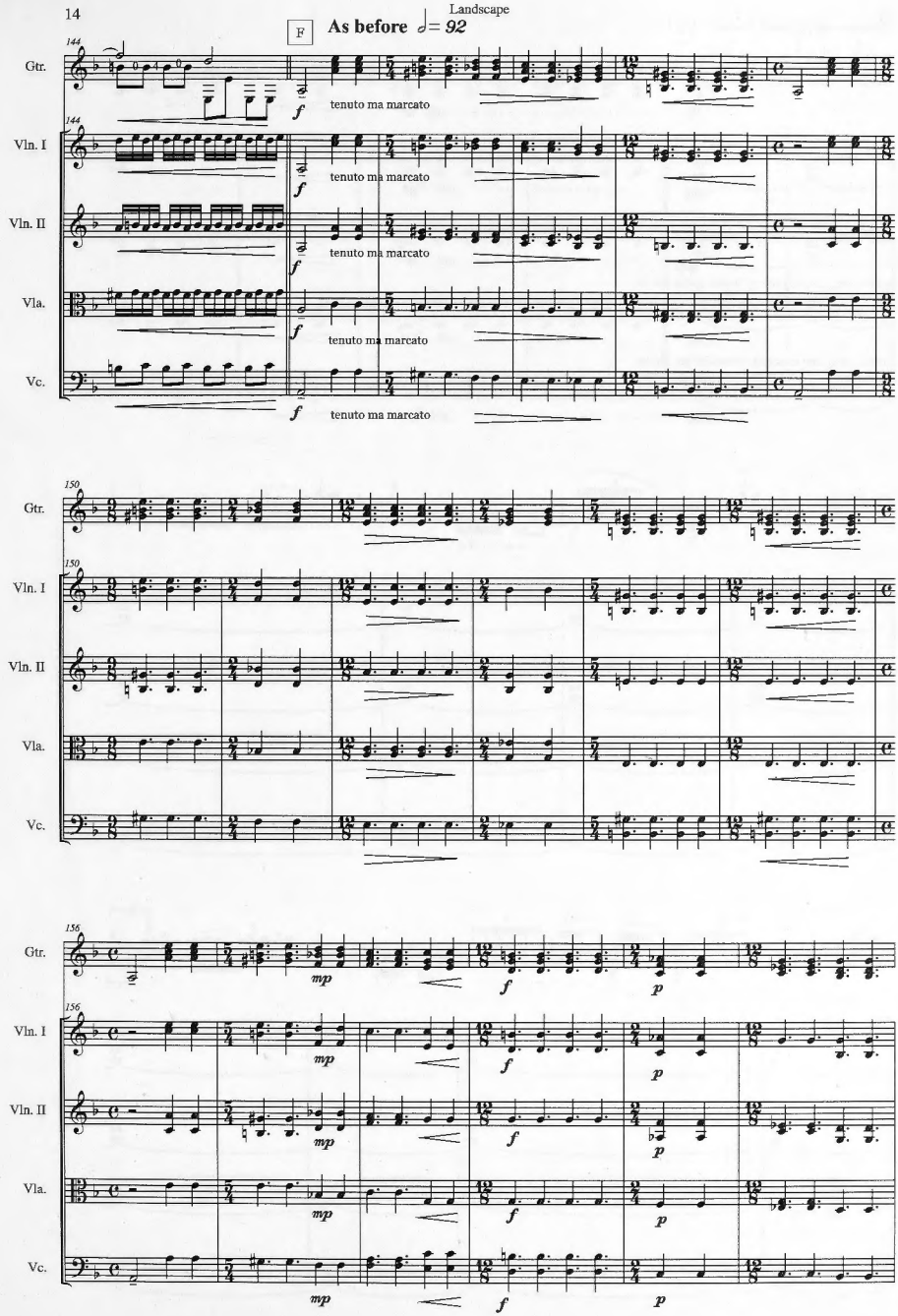

C
Twice as fast ♩= 92
81
Gtr.
Vln. I
Vln. II
Vla.
Vc.
pp flautando
mp pizz. pp
87
93

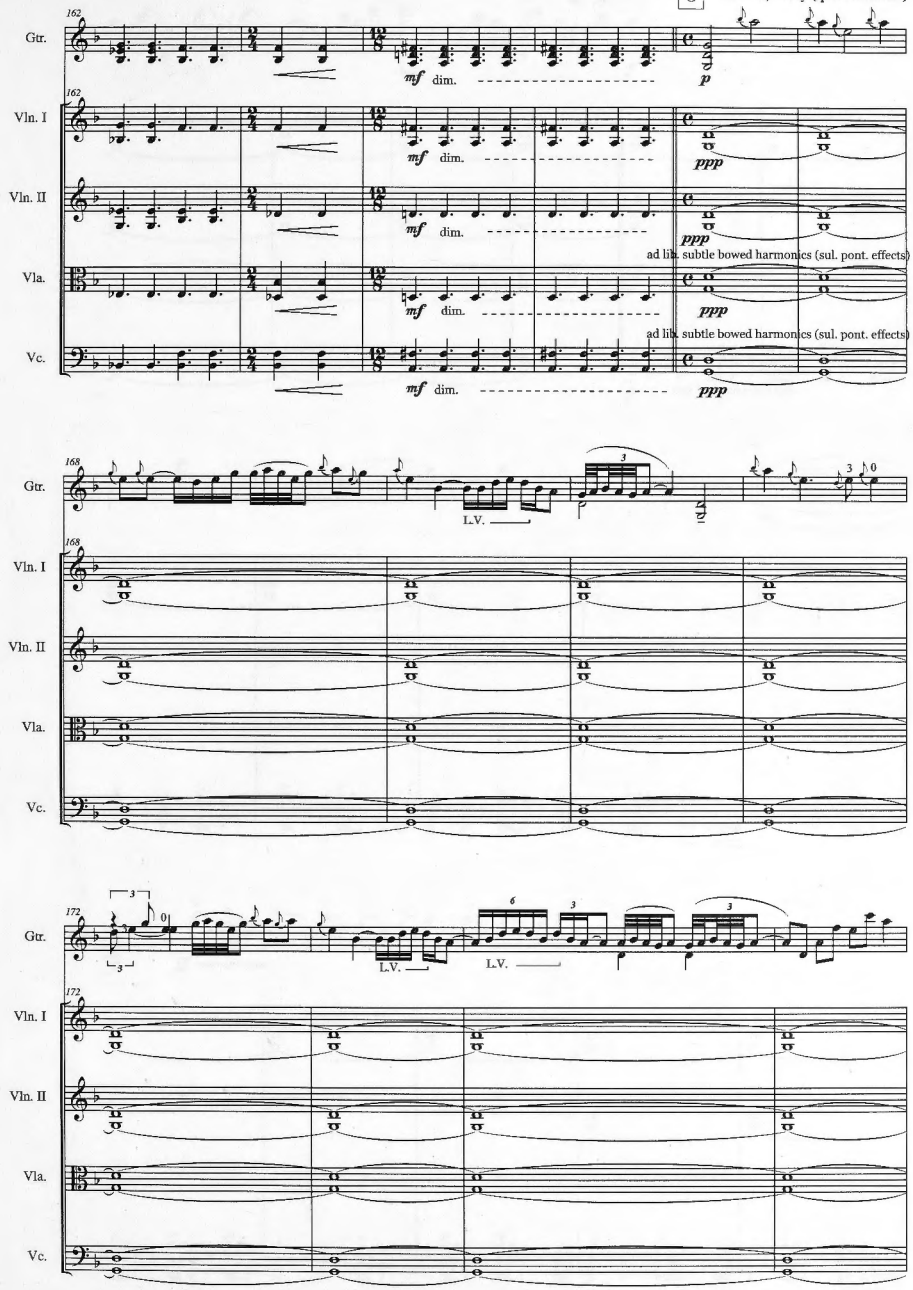

99
Gtr.
Vln. I
Vln. II
Vla.
Vc.
mf p
D
Tempo I ♩= 108
105
ff marcato con brio
ff
109

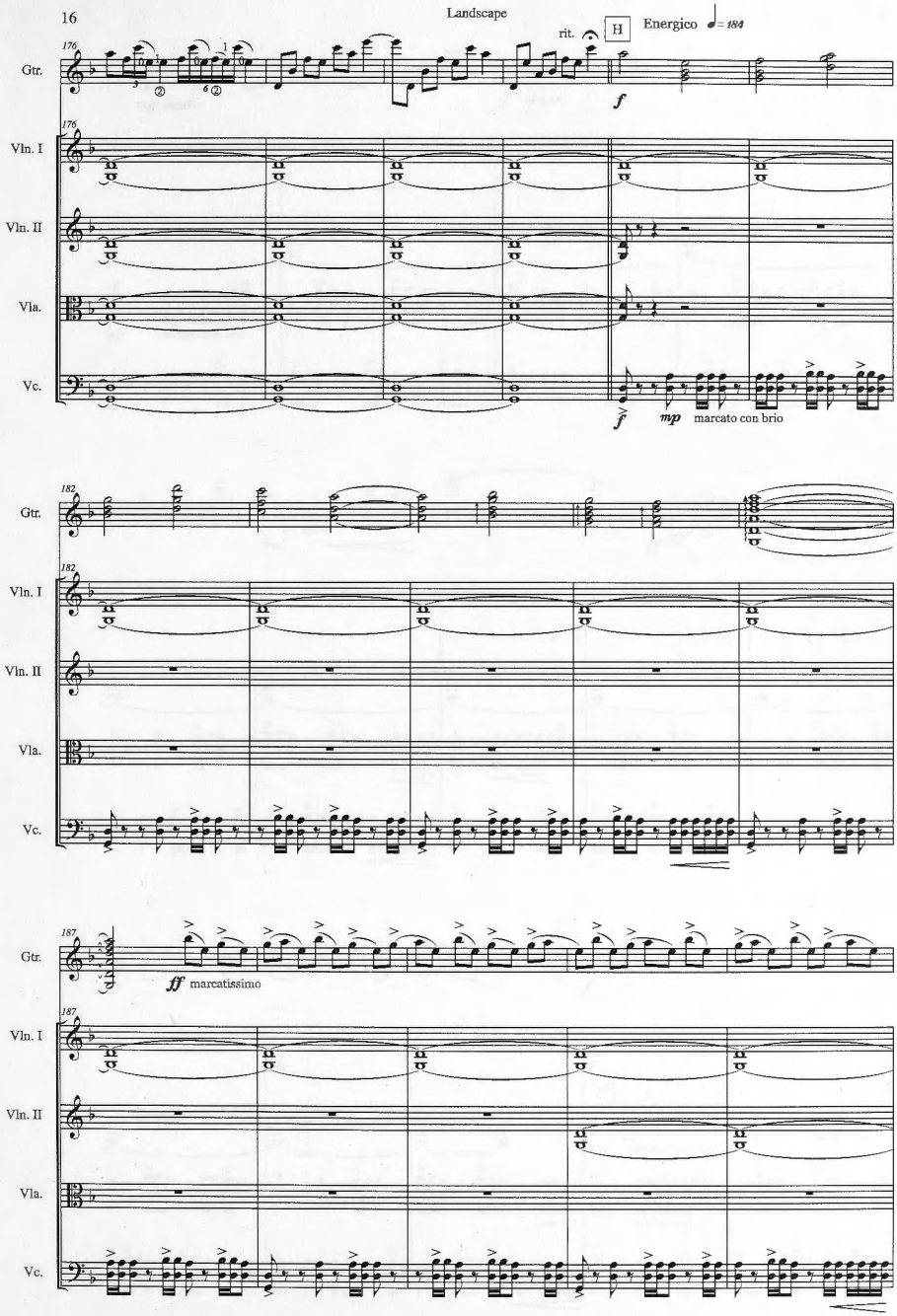

113
Gtr.
Vln. I
Vln. II
Vla.
Vc.
E
117
sim.
pp
mp sonore
120

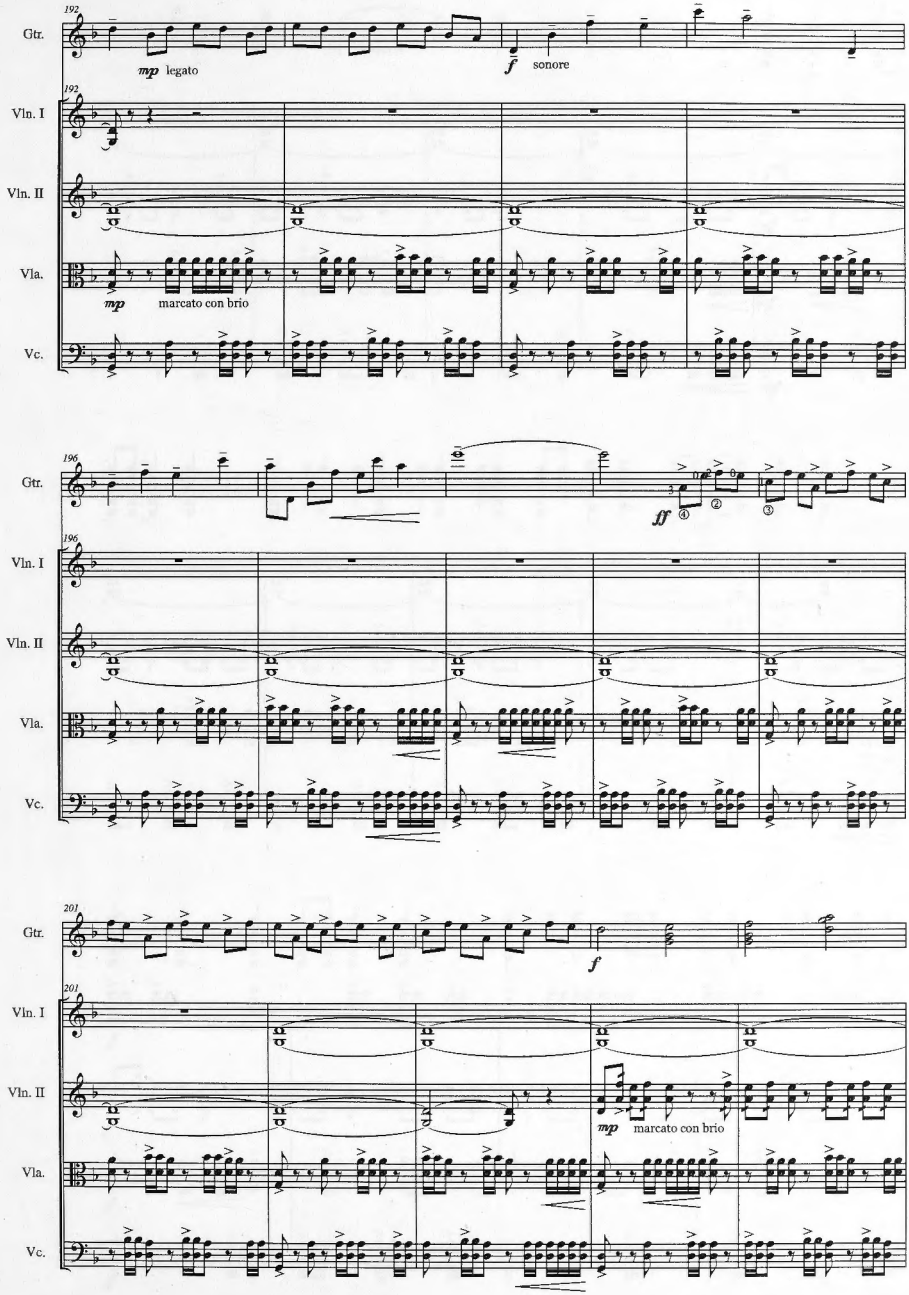

124
Gtr.
non-trem.
sim.
f
Vln. I
Vln. II
Vla.
Vc.
127
non-trem.
f
131
sim.

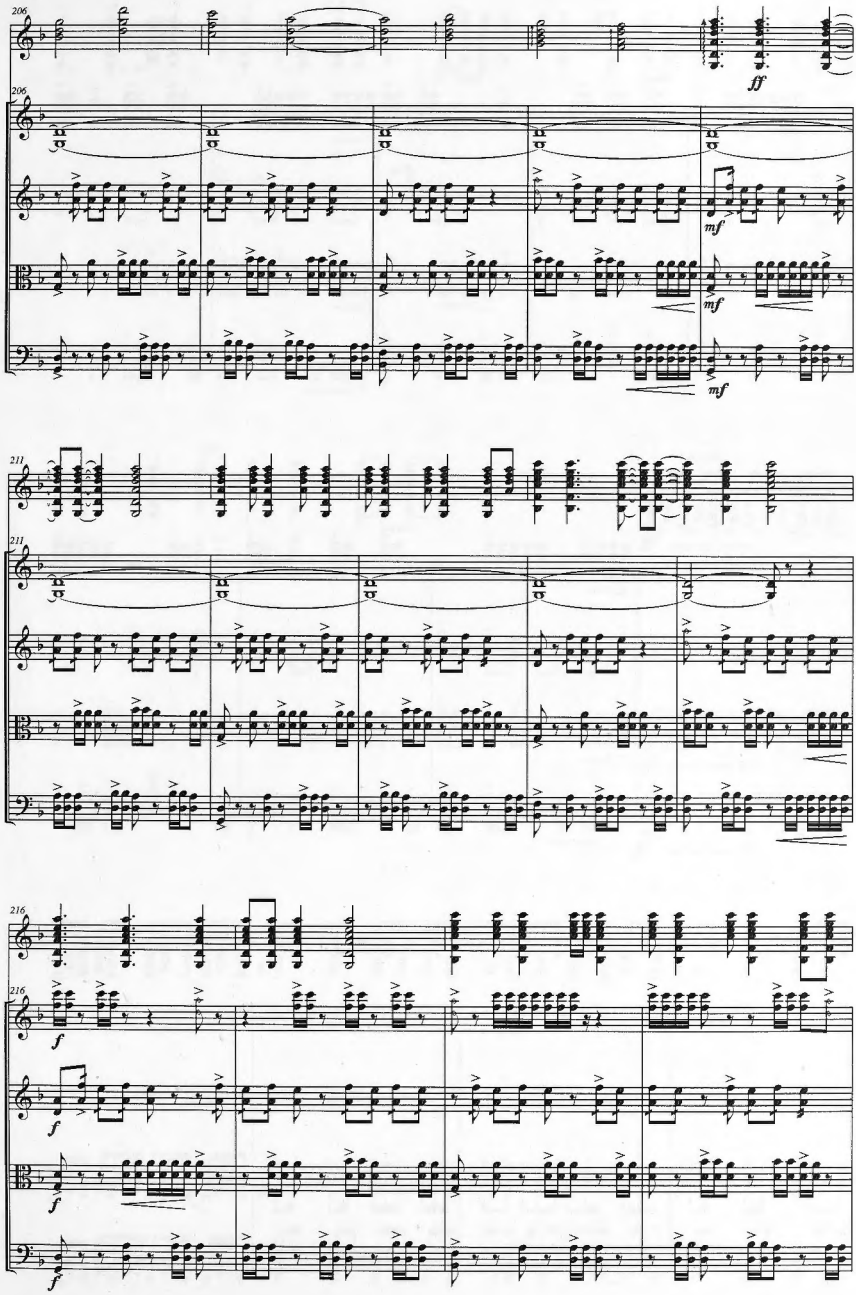

135
Gtr.
Vln. I
Vln. II
Vla.
Vc.
138
141
arco
p

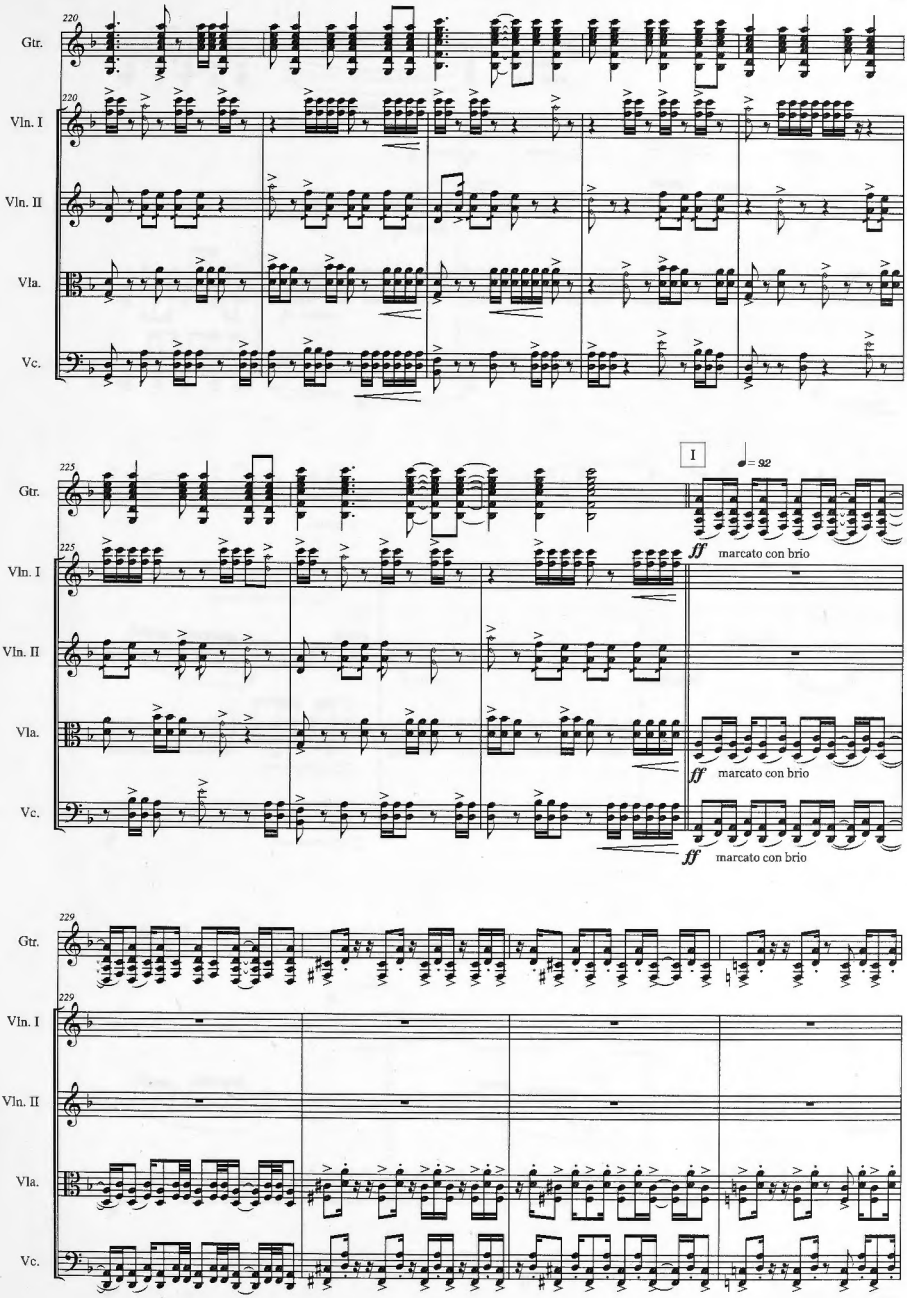

F
As before
Landscape
♩= 92
144
Gtr.
Vln. I
Vln. II
Vla.
Vc.
f
tenuto ma marcato
150
156
mp
p

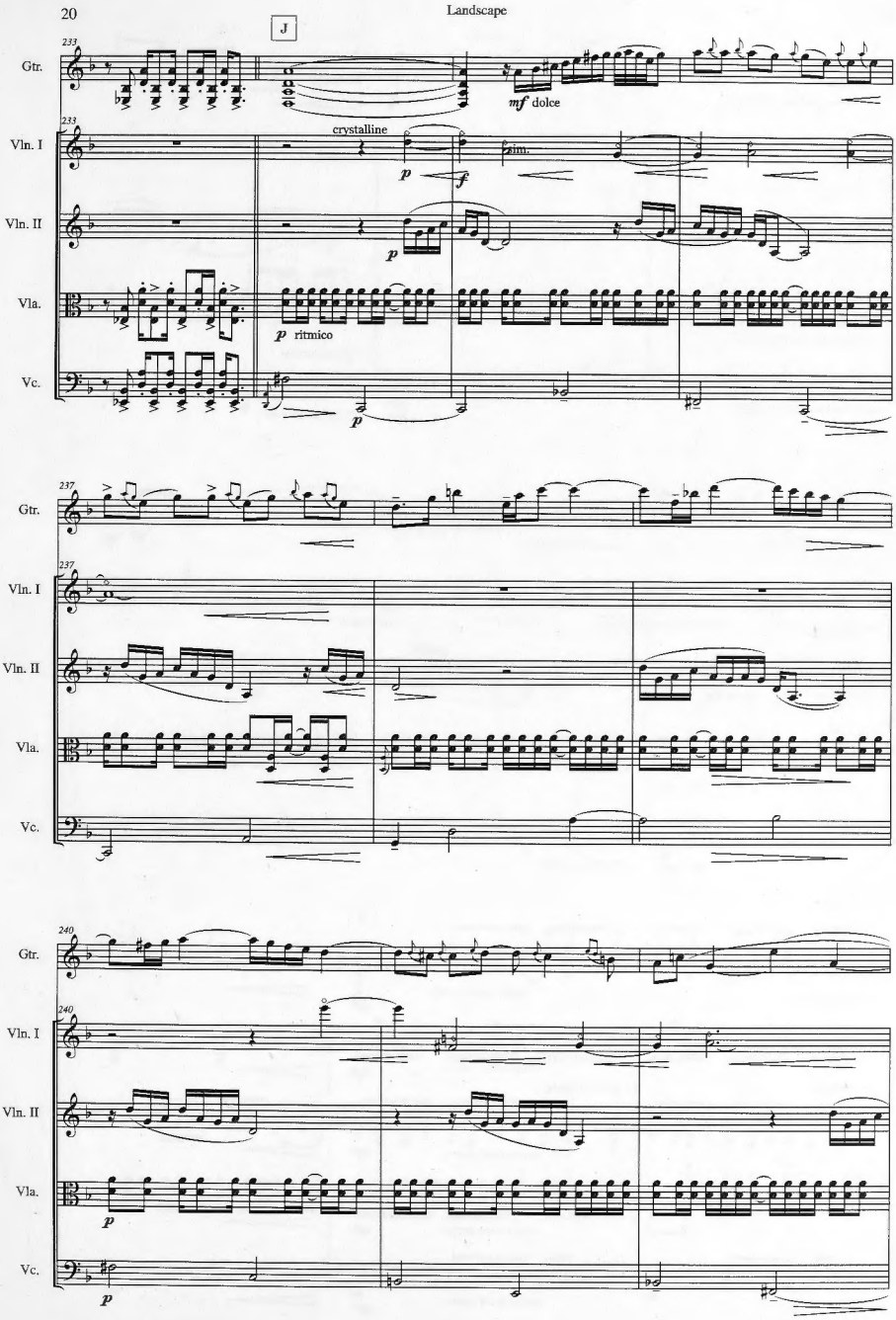

G
Slower, freely (quasi cadenza)
Gtr.
Vln. I
Vln. II
Vla.
Vc.
mf dim.
p
ppp
ad lib. subtle bowed harmonics (sul. pont. effects)
L.V.

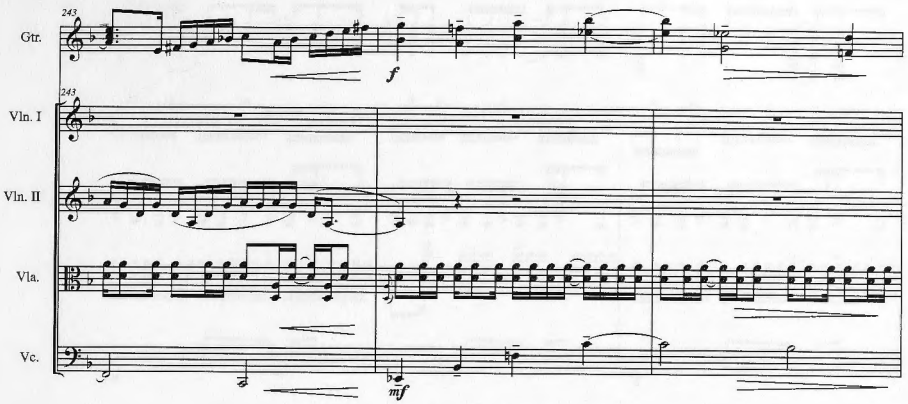

Landscape
rit.
H
Energico
♩= 184
176
Gtr.
Vln. I
Vln. II
Vla.
Vc.
f
mp marcato con brio
182
187
ff marcatissimo

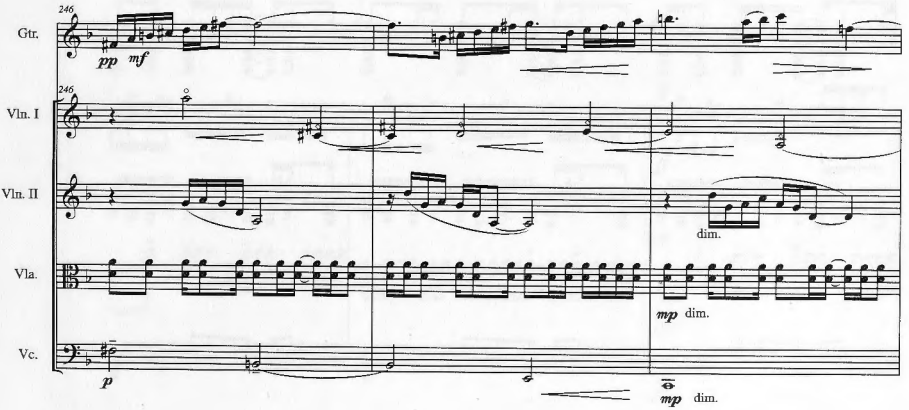

192
Gtr.
mp legato
f sonore
192
Vln. I
Vln. II
Vla.
mp marcato con brio
Vc.
196
Gtr.
ff
196
Vln. I
Vln. II
Vla.
Vc.
201
Gtr.
f
201
Vln. I
Vln. II
mp marcato con brio
Vla.
Vc.

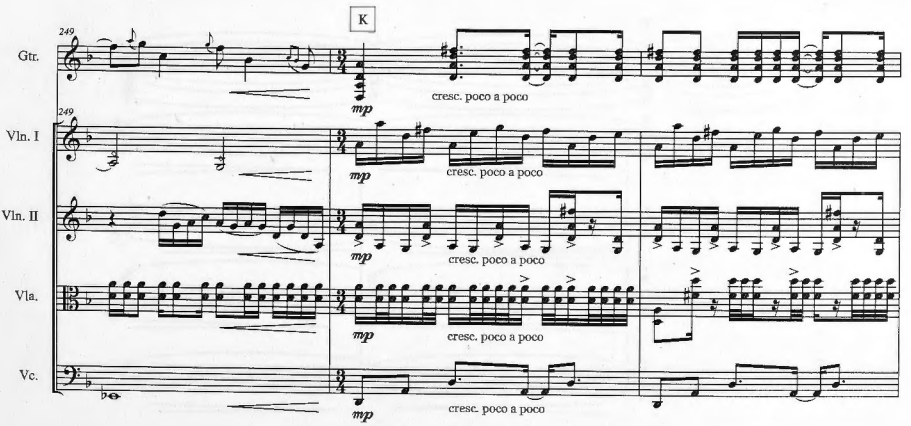

206
Gtr.
ff
206
Vln. I
Vln. II
mf
Vla.
mf
Vc.
mf
211
Gtr.
211
Vln. I
Vln. II
Vla.
Vc.
216
Gtr.
216
Vln. I
f
Vln. II
f
Vla.
f
Vc.
f

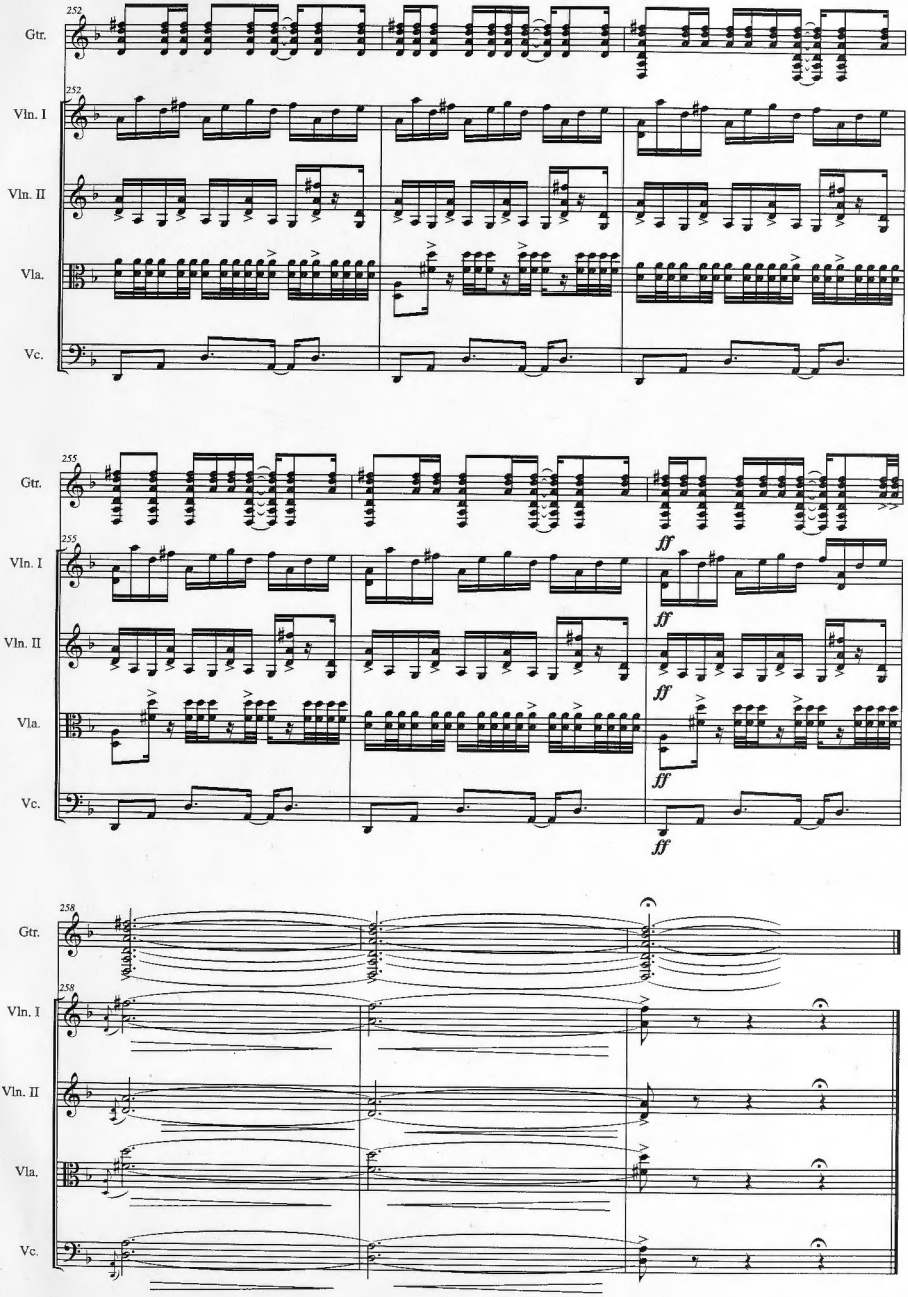

220
Gtr.
Vln. I
Vln. II
Vla.
Vc.
225
I
♩= 92
ff marcato con brio
ff marcato con brio
ff marcato con brio
229


J
233
Gtr.
mf dolce
Vln. I
crystalline
p
f
sim.
Vln. II
p
Vla.
p ritmico
Vc.
p
237
Gtr.
Vln. I
Vln. II
Vla.
Vc.
240
Gtr.
Vln. I
Vln. II
Vla.
p
Vc.
p


243
Gtr.
f
243
Vln. I
Vln. II
Vla.
Vc.
mf


246
Gtr.
pp mf
246
Vln. I
Vln. II
dim.
Vla.
mp dim.
Vc.
p
mp dim.


K
249
Gtr.
mp
cresc. poco a poco
249
Vln. I
mp
cresc. poco a poco
Vln. II
mp
cresc. poco a poco
Vla.
mp
cresc. poco a poco
Vc.
mp
cresc. poco a poco


252
Gtr.
Vln. I
Vln. II
Vla.
Vc.
255
ff
258